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SOME MODERN ASPECTS OF PREVENTIVE MEDICINE.

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BY

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AT a first glance there would seem to be a wide gulf separating the practice of Public Health from that of the twin crafts of Medicine and Surgery. And yet, on closer examination, we find the distinction in many points more imaginary than real; for, though the absolute practice of Public Health excludes participation in active medical or surgical work, those more recent advances in pathological mycology, which are indissolubly associated with the progress of the scientific attitude toward the control of disease, have at the same time not only helped to perfect the medical recognition and treatment of diseased conditions, but have actually rendered possible the evolution of modern surgical methods. A yet closer tie has been established by the direct help which laboratory methods have of recent years afforded towards the discrimination of diseases, a help which further progress should render still more definite and valuable, and one which has been generously and ungrudgingly recognised by the profession at large.

To such generous recognition of as yet small services I ascribe the graceful compliment which places me in your presidential chair, a position which I feel I hold in trust on behalf of the Public Health service, with a full and sincere appreciation of its responsibility and its dignity.

The *problem of causation* in regard to communicable diseases has in every age been of profound interest; but in no branch of medicine is to be found a more startling contrast than that which exists between the ancient and the modern attitude towards contagion. Amongst the ancients there is little doubt that plagues and pestilences were all classed together as of divine origin. Forms and ceremonies were used to avert disaster, temples and statues were erected to offended deities, the diseases themselves were deified; in later ages festivals were held, days of mourning decreed, and churches founded to appease divine wrath. In the absence of accurate knowledge of the pathology of contagion, this attitude is perfectly intelligible. Darwin points out that there is no exception to the rule that every organic being naturally increases at so high a rate that, if not checked, the earth would soon be covered by the progeny of a single pair. The epidemic spread of communicable disease dependent on parasitic organisms tends, in spite of the restrictive influences of environment, individual insusceptibility, or other opposing causes, to assume, and if not purposely checked ordinarily does assume, a geometrical rate of increase. If the ratio of increase is as little as twofold, the eighth term of such a series commencing with one case would be 128; if the ratio is threefold, the eighth term would be 2,187; whereas if the ratio is sixfold (a ratio I have observed in a commencing small-pox outbreak checked at this exact point), the eighth term of the series of an absolutely unfettered outbreak would have reached the large total of 279,936 cases. It is the old story of the nails in the horse-shoes.

The earlier terms of a geometrical progression are comparatively small; thus, considering the fourfold ratio of increase, the first eight consecutive terms are—

1, 4, 16, 64, 256, 1,024, 4,096, 16,384.

A disease introduced amongst a susceptible population, and

spreading at this rate, might at first attract little notice, until the deaths began to be so numerous as to cause alarm. By this time the accumulation of cases would be so great as to obscure the rise and progress of the epidemic by natural means. "The threads of connection of case with case are inextricably entangled, and practically lost. There are hundreds or thousands of sick people, and the effect is so universal that the public lose their grasp of and confidence in the sufficiency of the cause to which science or intelligent knowledge firmly adheres. It is then we hear of epidemic constitutions, pandemic waves, and all those mysterious and unprofitable conceptions which are begotten of ignorance and terror in the human mind."[1] The correct view, even though the threads are lost, is to look upon every epidemic as invariably having begun with one case. Each case in the series possesses similar potentialities of increase, and all preventive measures must rightly be directed against the individual cases, the units of the disease.

The establishment of the causal connection between certain organisms and special diseases, in accordance with Koch's postulates, has been necessary to place the modern view of the communicable diseases upon a solid foundation; but it is interesting to note how shrewdly it had been guessed from simple observation and argument from analogy.

Up to the time of the devastating epidemics of the 14th century[2] no advance was made, and pestilence was still ascribed to supernatural agencies; but the experiences of this century seem to have stimulated thought, and to have started the modern idea of contagion, indicated by the establishment of lazarettos and the institution of quarantine. In[3] 1546 Girolamo Fracastoro, the Italian physician, first enunciated this doctrine

[1] Russell, *Lectures on the Theory and General Prevention and Control of Infectious Diseases*, 1879, p. 71.

[2] The immense effect these epidemics had upon the relationship between landlord and tenant, resulting almost in "the emancipation of the surviving serfs," and other economic effects, are dealt with in Prof. Thorold Rogers's *Six Centuries of Work and Wages*, 1884; *The Economic Interpretation of History*, 1888.

[3] Sykes, *Public Health Problems*, 1892.

as to plague, asserting that a specific contagion was exhaled by the bodies of infected persons, spreading only short distances by the air, but clinging so tenaciously to various objects as to be carried to unlimited distances and to be capable of infecting whole cities. Accurate knowledge was of course impossible until the successive impulses afforded by microscopic advance, by differentiation of the types of fever, by establishment of the cellular theory of plants and animals, and by the study of inflammatory processes, conjoined with much careful observation of diseased conditions and of the influences affecting them, and with more intelligent study of immediate transmission of disease from person to person, and of mediate transmission through water, air, or soil, paved the way for the discovery of actual causes, and resolved the study of communicable disease into a study of the life-history of parasitic organisms. Between the animal parasites of man and the micro-organismal parasites associated with his specific fevers, there are so many points of analogy that the consideration of the life history of the former may well help to elucidate the less obvious phenomena presented by the latter. Leuckart's views as to the evolution of parasitic species have been ably dealt with by Payne, and are of considerable interest in relation to the specific diseases. The argument runs thus[1]: —

In considering the question of parasitism, we must allow that any parasite must have been evolved from some free living form. In many parasites no relationship with known free living forms can be traced, survival of the parasitic form being due to the greater advantages of its habits. The Nematoid intestinal worms, however, possess near allies in the free water-living Nematoids, feeding on decomposing organic matter. Their food supply is precarious, and drying of the stagnant pools they inhabit threatens them with extinction. Now such worms must often be carried into the intestines of larger animals drinking the water, and if able to accommodate themselves to the conditions of existence there, they gain great

[1] Condensed from Dr. J. F. Payne's "Specific Diseases considered with Reference to the Laws of Parasitism," *St. Thomas's Hosp. Rep.*, 1892, xx. 59; *Manual of General Pathology*, 1888.

economical advantages, including large supplies of food and an equable temperature, both conducive to the heightened fertility characteristic of parasitic forms. If the pools dry up, the parasite accompanies the animal to fresh drinking places, and secures fresh facilities for development, when the cycle may be repeated. By natural selection the individuals suited to an intestinal life would remain, and the unfit be eliminated—thus a species would result, spending its adult life as an intestinal parasite, and its embryonic life only in the water. Similarly it may be assumed that the micro-organismal parasites, each after its kind, are derived from free living forms, the line of descent to be traced through those forms inhabiting the medium from which the animal body derives each class of parasite—from water, from air, or from soil. The parasitic habit having been established, the conditions favouring the continuance of the species are regulated by the laws of parasitism, of *entrance*, *migration*, and *exit*, each of these being such as to secure the successive passage of the parasite into the next proper medium, or the next necessary host.

The law of *entrance* is, in the case of animal parasites generally simple, requiring only the habit of aquatic life, so that they may be ingested with food or water. The purely intestinal parasite remains in the intestine, but certain species migrate to other organs more suitably situated for the continuance of the species.

The bacillus of enteric fever and the spirillum of cholera are both adapted for aquatic life, actively mobile by flagella, nearly allied to species common in foul liquids, marshes, or stagnant pools, and, so far as we know, exclusively human in their parasitic life.

It requires, therefore, says Payne, no great stretch of the imagination to suppose that such diseases were originally developed from an aquatic free species living in foul liquids, and that selected individuals became adapted to living in the intestines, where their multiplication would be favoured by high temperature, and by this adaptation they would be carried from one place to another, and thus when discharged from the bowels would be able to colonise fresh localities. The fact that

they are exclusively human suggests, too, that their evolution has been connected with human systems of excrement disposal, and has become indissolubly associated with these arrangements. As to one of these diseases—enteric fever—Sir William MacGregor[1] remarks on its absence in British New Guinea, in West Africa, and till recently in Fiji, and suggests that it is a by-product of civilisation. The mode of entry of cholera and enteric fever germs is by water, to which they may return, and in which, or in moist soil organically polluted, they appear to live their part term of life as saprophytes.

In obedience to the second and third laws, those of *migration* and *exit*, embryos find their way to some part of the body offering the best opportunities for the continuance of their species. For example, the tapeworm form of the human tænia echinococcus, which is peculiar to the dog and the wolf, discharges its final mature proglottis, which may contain as many as 5000 ova, on to the surface of the ground, whence it is taken up into its next host, normally some herbivorous animal, the echinococcus being apparently accidental in man. Next occurs the curious migration of the six-hooked embryos set free, usually to the liver, which is probably the first point of attack when the herbivorous host is eaten by dog or wolf, in which the tapeworm form again develops. Similarly, human tapeworms pass their embryonic stage in oxen or pigs, in which they find their way to the muscular tissues, to be devoured in turn by carnivora or by man, in whom they re-assume the tapeworm stage.

A further example illustrating the adoption of habits well fitted to ensure the continuance of the species is found in the life history of the Pentastoma tænioides, which in its mature form hangs in the frontal sinuses and nostrils of dogs and wolves; passing thence with the nasal mucus on to plants, it is eaten by herbivorous animals, usually rabbits, in which it passes directly to the liver. The dog or wolf attacks first the liver, plunging his nose into it, the embryo becomes attached to the nostrils, and so the cycle is continued.

In the case of vegetable parasites, there are many analogies

[1] *Brit. M. J.*, 1900, ii. 979.

with the phenomena of animal parasitism. Some micro-organisms produce only local trouble, but others at once migrate to situations favourable for their continuance, the migration being accompanied by enormous increase in numbers. The acute exanthemata furnish a notable example; the parasitic microbes received by inhalation migrate so as to reach the surface of the skin, where they set up inflammatory processes of a kind to secure their being thrown off into the air, and so to favour the continuance of the species; and this cutaneous excretion of infection takes place by whatever channel the virus is received into the body, whether the small-pox is inoculated or the scarlet fever received with milk.

A very important factor in connection with the continuance of the parasitic micro-organismal diseases is the degree of infectivity in relation to the duration of the disease: the acute specific fevers are in general short-lived, and to secure continuance must present an abnormally high potentiality of infection; the diseases of slight infectivity, such as tubercle and leprosy, are characterised by long duration, which, together with a high rate of multiplication, tends to the preservation of the species.

It is an obvious advantage to a parasitic species to have the power of continuing its existence in more than one kind of animal. In this respect cholera and enteric fever are at a disadvantage, as they are distinctively human, and if the immediate or mediate transmission from man to man be inhibited, they must rely only on their powers of saprophytic existence. Small-pox has also only limited powers of spread amongst animals other than man, and these are of such kind that they have been turned to man's advantage. Scarlet fever, tubercle and diphtheria, however, introduce us to a class of disease whose prevalence amongst the lower animals has distinctively led to some distribution of the human disease; and plague in its turn presents the most notable instance of an ability to exist in epidemic form simultaneously in man and a wide group of animals often associated with him. The rat, mouse, monkey, bandicoot, squirrel, marmot, guinea-pig, and rabbit are all liable to contract plague under natural

conditions, and in such fashion, especially in regard to the rat, as to materially assist or precipitate the spread of an epidemic amongst men. Koch, indeed, appears to consider that plague is primarily a rat disease, its occurrence in the human subject being secondary or accidental. This introduces a difficulty not met with in our other epidemic diseases, and demands more than the fitful interest hitherto accorded to the subject.

The chances of survival in any parasite are generally very slight, and, were not the rate of production enormous and the evolved habits favourable, the species would tend to die out. Cholera in unfavourable climates, where no fresh supplies of spirilla able to take on the intestinal habit are available, and small-pox under the double disadvantages of vaccination and isolation, do become locally extinct. Tubercle is an example of an organism which maintains its existence by extreme multiplication, long continuance, and selection of special sites for its elimination. By whatever means tubercle is introduced, it ultimately, in a great majority of cases, affects the lung. Its chief mode of dissemination amongst mankind appears to be by means of the dried sputum which is received immediately without the intervention of a second host. The expulsion of tubercle bacilli from the lung has been estimated by Böllinger at as many as twenty millions in twenty-four hours. Here are presented all the necessary factors to secure the continuance of the species as perfectly as though they had been expressly designed to this end.

The history of the filaria sanguinis hominis, an inhabitant of the lymphatics and blood in man, and its relation to the gnat as a carrier-host, or perhaps as an intermediate host, is full of interest. Very remarkable, too, is the adaptation of the periodic evening swarm of embryonic filariæ at the very time when the visits of the female gnat, the blood sucker, are most common. So numerous are the embryos that the smallest drop of blood is sure to contain some. The gnat, having fed, proceeds to lay her eggs in pools of water, and it must be remembered that the filaria belongs to the group of nematoda, some of which only are parasitic, while others are free water-living worms. Whether part of their life must be

passed in water, in which case the gnat is merely a carrier-host, or whether they are re-introduced by the gnat in the act of biting, to which the discovery of the filaria in the proboscis of the mosquito definitely points, in either case the gnat is necessary for the continuance of the species from man to man.

Of even greater interest is the relationship of the gnat to malaria or gnat fever,[1] treated at length in the *Report of the Liverpool Malaria Expedition*. Certain kinds of gnat only, especially all species of the genus *Anopheles*, appear to be hospitable to the hæmamœbidæ, or blood parasites of this disease. In other inhospitable species ingested parasites perish within the stomach cavity, whereas in hospitable species the zygotes (the homologues of the fertilised ovum) escape from that cavity and develop in the tissues, ultimately giving rise to blasts (sexually produced progeny), which are found in the juices and salivary glands of the gnat. The fuller life-history is as follows:—

1. The youngest parasites, existing as *amœbulæ* or *myxopoda*, within the red blood-corpuscles of vertebrate host, on reaching maturity, become either—

2. *Sporocytes*, destined for asexual propagation of organisms within vertebrate host. These form *spores* (asexual progeny) by division; the spores escape into plasma, enter fresh corpuscles, become fresh *amœbulæ*, or

3. *Gametocytes*, sexual forms (male, containing many *microgametes;* female, containing one *macrogamete*). These remain unchanged in vertebrate hosts, but on entering the stomach of a suctorial insect perform sexual function, and the fertilised *macrogamete* becomes a *zygote* (the homologue of a fertilised ovum).

4. In a hospitable species the *zygote* pierces the stomach wall, affixes itself to the outer coat, and increases in size. It divides into 8—12 *meres;* each mere becomes a *blastophore*, bearing a number of filamentous *blasts* (sexual progeny), fixed to its

[1] *Report of the Malaria Expedition of the Liverpool School of Tropical Medicine and Medical Parasitology.* Memoir II. By Major R. Ross, Dr. H. E. Annett, and E. E. Austen. 1900.

surface by one extremity. The *blastophore* disappears, leaving the *zygote* packed with *blasts* (Koch's sickle-shaped bodies). The capsule ruptures, the blasts escape into the body cavity, and penetrate to the salivary glands of the gnat, whence they may pass into the blood of a new vertebrate host, in which they eventually become the amœbulæ with which the cycle commenced.

These facts, confirmed by recent experiments, thus seem to show that gnat fever is communicable from sick to healthy persons by the bite of *Anopheles*, the life-history of the parasite in its alternate generations exactly favouring this mode of propagation. In the transference of the parasites from man to man through gnats there is, the authors of the *Report* point out, an economy which would not have existed had nature sown the organisms broadcast through the soil or air on the chance of one of them occasionally infecting a human being. Probably, too, this is the only method of continuance, as it has not been shown and is difficult to imagine that the hæmamœbidæ have, in addition to their complicated life-cycle in man and gnat, any further potentialities of free life in air or in water, formerly supposed to be essential to the life-history of so-called malaria. The importance of shallow pools is, by affording suitable breeding places, to favour the continuance of the genus of gnat without which the completion of the life-cycle of the parasite would be impossible. In short, as the authors of this valuable *Report* point out, there seems to be no longer *any necessity* for believing that the parasites live at all in the air or soil of infected localities. . . . Malarial fever *is* connected with the soil, with stagnant water in rural areas, and so on, as it was supposed to be; but it is not, as was thought, the germ itself which springs from the soil, but the carrier of the germ. The fact that malarial fever is communicable from the sick to the healthy has certainly been a surprising one. It was thought that it is not communicable because it was observed that communication does not occur outside endemic areas, while within endemic areas infections were attributed to an endemic poison, which were really due to communication from the sick, *viâ* the gnat. By endemic (malarious) areas we now understand

simply areas which are infected by the communicating agent (anopheles).[1]

This process of the development of the organism of gnat fever is suggestive of that undergone by the embryo of the sheep fluke.

1. The eggs, deposited near water, give rise to a ciliated free-swimming *embryo*. 2. The embryo penetrates the body of a fresh-water snail, where it becomes a *sporocyst*. 3. Within the *sporocyst* a large number of intermediate forms *rediæ* are produced; these leave the sporocyst and penetrate to the liver of the snail. 4. Within the *rediæ* small tailed *larvæ* or *cercariæ* are formed; passing out of the body of the snail they attach themselves to the stalks of water plants or stems of grass on damp ground. 5. They become encysted and are eaten by sheep, to repeat the cycle of existence.[2]

It may be urged that too great stress is at present being laid upon the *microbic origin* of the communicable diseases, tending to the obscuration of those great first desiderata—pure air, pure soil, pure water, a clean environment. But the essence of preventive medicine is to oppose the continuance of parasitic species by the production of conditions unfavourable to their existence, and so to assist the constant tendency of such species to die out, and these desiderata must ever hold the first place as prime necessaries in this endeavour. While all these great first principles of sanitation are most desirable, the correlation of special insanitary conditions to special forms of disease established by study of the life-history of the organism, must always be kept in mind; thus, excellent though the cleansing of pigstyes may be as a principle, it is but wasted energy, in the presence of a milk-carried epidemic of enteric fever, to start a crusade against pigstyes, or in the presence of spreading small-pox, to concentrate reconstructive energies upon the sewers. And the connotation of that much-abused word "insanitary" includes much beyond the mere filth conditions included in its popular conception; it includes social habits not only tending to overcrowding, but leading to free intermixing, increased by the

[1] *Op. cit.*, p. 34 *et seq.*

[2] A. P. Thomas, quoted by Payne, *Op. cit.*, p. 554.

very human impulse of curiosity or pity in times of sickness, and resulting under these influences, tinctured by a semi-religious sanction, in free visiting after death, or in the holding of disastrous wakes. Such social habits often supply the necessary facilities for widespread communication of disease, and may justly be classed as insanitary.

But the interests involved in Public Health or State Medicine in the present day are far wider than those concerned only with control of the communicable parasitic diseases. They are concerned with the conditions of workers in factories and the conditions of dwellers at home, and they take account of all influences affecting injuriously the bodily, or in the wider acceptation of State Medicine, the mental condition of the population. They are particularly concerned with the daily life and work of those classes least able to protect themselves, and most exposed, by necessities of occupation or social condition, to injurious influences. This quite modern development of Public Health has come into existence during the century preceding the present reign, and has resulted from three causes —the awakening of medical interest in questions affecting the Public Health, the development of the altruistic spirit in public policy, and the rise of and assumption of a position of numerical and political importance by the artisan classes. The revival of scientific medicine in the 17th century was followed in the 18th by the work of many pioneers who helped to establish Public Medicine upon a broad and intelligent basis. The year 1720 was signalised by the publication of Dr. Richard Mead's *Short Discourse concerning Pestilential Contagion*, which not only passed through nine editions in his lifetime, but stands even now as a remarkable essay in practical preventive medicine. In 1752 Sir John Pringle published his work on *Diseases of the Army*, which, dealing as it did with the causes and prevention of disease, as well as with the general hygienic conditions of active service, may be said to have begun hygienic reform for the army.[1] A similar service towards the navy and mercantile service was performed by Dr. James Lind, who between 1753 and 1757 published his treatise on Scurvy and his essay on the

[1] Sir John Simon, *English Sanitary Institutions*, 2nd Ed., 1897.

means of preserving the health of seamen. The awarding of the Copley Medal in 1776 to Captain Cook for successful application of these principles during a voyage round the world, and the issuing of lemon juice to the navy in 1796, during Sir Gilbert Blane's term of office on the Medical Board, form notable evidences of progress. Sir George Baker in 1767 had meanwhile demonstrated the "Cause of the Endemial Colic of Devonshire" by a remarkable and sound piece of reasoning. Finally Edward Jenner endowed the close of the century with a discovery, the far-reaching influence and value of which it is unnecessary to dilate upon and difficult to over-estimate.

Apart from medical progress, a change was taking place in the social relations of the governing and the governed classes. The care that is now exercised for the welfare of the poorer classes of citizens was, before the middle of the eighteenth century, hardly realised as possible or even necessary. The "New Humanity" of the eighteenth century was marked by two waves of enthusiasm, the altruistic political revival of the last quarter of the century having been prefaced and, no doubt, largely influenced by the remarkable religious revival of the second quarter of the century, associated with the names of Whitefield and the Wesleys.[1]

"Poverty," says Sir John Simon, "began to be considered, as perhaps never before, by the prosperous parts of society . . . The study of the various factors which are degradatory in social life were seen to be more urgent religious problems than some which had exercised schoolmen and mystics; and vagrancy and vice and crime, when the conditions of their multitudinous production had grown to be better understood, were felt to be piteous appeals to the strong of the world, brothers' blood crying from the earth." Philanthropic activity, suspended during two centuries of ecclesiastical and civil unsettlement, began to be re-devoted to the establishment of new hospitals for the sick and refuges for the destitute and afflicted, or, like the Sunday schools established by Raikes, for the elementary education of children of the poor. Foremost

[1] I am reminded in this connection of Wesley's aphorism, "Cleanliness is indeed next to Godliness," Sermon XCIII. on Dress.

amongst work bearing on the sanitary and moral relations of preventive medicine stands the memorable Enquiry of John Howard into the condition of prisons, the results of which he disclosed to the English House of Commons in 1774; and it is characteristic of Howard's singleness of purpose that, not content with generalities in humanity for mankind at large, he did his first work of sanitary reform at home, pulling down and rebuilding every one of his own cottages, and such others as he could purchase, and erecting others, so as to transform the whole village from a condition of neglect to one of cheerful well-being. The question of prison reform was taken up earnestly by other philanthropists, foremost amongst whom must be placed Mrs. Elizabeth Fry, whose influence on prison reform, especially as regards the female prisoners, has proved remarkable and enduring. Meanwhile outside events had not been without influence in modifying and directing public opinion; and the great revolutionary movements of 1776 in America and of 1789 in France profoundly influenced the line of thought, not only on abstract principles of governments, but on the reciprocal rights and duties of governors and the governed. The abolition of British slave trading in 1807, and the emancipation of Colonial slaves in 1833 supply an index of the progress and growth of the "New Humanity" in politics.

The third important factor profoundly affecting the scope and importance of Public Health measures was the change in social conditions induced by the "industrial revolution" that was a distinguishing feature of the latter half of the 18th century, the influences of which extend to the present day, and the immediate result of which was to convert Great Britain, previously, in great part, an agricultural community, into the workshop of the world. Although, early in the 18th century, the textile trades had been invaded by machinery, and improvements in process of manufacture had largely developed the iron industries, the great feature of the century was the general application of steam, by the genius of Watt, to purposes of manufacture. Dr. Russell[1] thus eloquently traces the social results of the application of steam to prime movers.

[1] 'Public Health and Social Problems," *San. J.*, 1898, N.S., v. 1.

"So long as the human hand is the motive power, men are not necessarily drawn together in community of labour. With the use of wind and water comes the factory system, but the factories must go where the wind and water are to be had. The hand-loom weaver lives in villages; the power-loom weaver, so long as the power is wind and water, congregates on breezy heights and beside isolated rivers, in groups which have their natural limitations. The spinster spins at home. Steam changes all that. The power is brought to the factories in the shape of coal. Manufacturing towns spring up on sites which attract, by facility of production and distribution, and grow without natural check or limit. And so with other industrial occupations. If a coalfield is convenient, they cluster round it; or a population grows up, maintained by getting and shipping or training the coal to seats of industry elsewhere. If ironstone is found in proximity to coal, they, in combination, attract the most portentous aggregations of human beings. Thus whole counties become practically urban in character. The country becomes a vast workshop. Ports are required, and spring up, from which to send out the products, where to receive and whence to distribute the merchandise that comes in exchange."

In this way was created the artisan class, which, though at first very hardly treated by the new conditions of labour, has now, under State protection, become the most numerous and energetic portion of the community. The growth of manufacturing towns takes place largely by the influx of adults from country districts, census after census shows a greater and yet greater aggregation in towns and a corresponding depletion of rural districts: and this aggregation undoubtedly presents added difficulties, and is a further distinct source of danger to public health, in no way lessened by increased facilities in travelling, and constant migration from centre to centre with the varying fortunes of local industries.

Such were the partly favourable, partly unfavourable, and wholly new conditions of social life, upon which a new epidemic invasion was, towards the close of the first third of the century, to exert a salutary stimulus. The tendencies making for improvement, forming through the previous century, were as yet barren of

result in Public Health progress. Though no vast epidemic had terrorised the population, yet the home fevers and small-pox were constantly claiming an undue proportion of victims. The congestion induced by industrial aggregation in large towns furnished fresh facilities for the spread of disease, which the condition of these towns as to housing and municipal control served to aggravate. That one-tenth of the population of Manchester was at this period living in cellars, gives some idea of the urgent need for reform. Indications, such as the progress of factory reform through the first half of the century, marked chiefly by the Acts of 1833 and 1847, and indissolubly associated with the name of Lord Shaftesbury, the Reform Bill of 1832, and the Amendment of the Poor Law in 1834, show that the humanitarian and social influences were still at work; but some stimulus was needed to initiate and direct the beginnings of sanitary effort. The cholera of 1831 supplied this stimulus, and, disastrous as were its immediate effects, there is little doubt that it originated those movements which formed the beginnings of modern preventive medicine. The lessons of 1831 might have been forgotten, but the establishment of civil registration in 1837 made possible, for the first time, an accurate estimate of the loss caused by disease and death, emphasised and elucidated by the writings of Dr. Farr. Public opinion, as yet only fitfully interested towards sanitary improvement, became thoroughly aroused. In 1844 the Health of Towns Commission published their classical Report, followed by the first Public Health Act of 1848. In 1849 and 1854, cholera repeated its visits and re-emphasised its warnings, and at length an era of sanitary reform, continuous and progressive, was established. Great as were the advances made, and marvellous as were the inductions of such men as Henle, Snow, and William Budd, made from the observed facts of disease occurrence and transmission, as to the actual nature of contagion, yet it needed the actual demonstration of the "contagium," and of its causal relationship to its associated disease, to place preventive medicine on an assured basis.

The modern science of bacteriology, a product especially of the last quarter of the century, has elucidated much that was

obscure in medicine, and furnished a new standpoint for accurate study of pathology, as well as of the propagation of disease. The science is yet young, but in a vigorous infancy; already it has marvellously advanced surgery, and systematised much of medicine; more than all, it has made it evident that public medicine is no alien, but a fellow-worker with the sister crafts, and that the interests of one are the interests of all.

A PLEA FOR SANATORIA FOR THE POORER CONSUMPTIVES.

BY

LIONEL A. WEATHERLY, M.D.

"Is there anything whereof it may be said, See this is new?"

IN 1882, Koch announced to the world his discovery of the bacillus tuberculosis, and proved that consumption was a communicable disease.

Four hundred years before Christ, Isocrates preached the doctrine of the contagiousness of phthisis; but few listened to him.

Half a century A.D., Pliny the Elder prescribed exposure to the sun and residence in the neighbourhood of pine forests for those afflicted with consumption.

In 1840, an English country practitioner, Dr. Bodington, of Sutton Coldfield, advocated and carried out the very treatment of consumption which to-day is looked upon as the best, the most common-sense, and most hopeful mode of helping forward recoveries in the early stages of this disease. Dr. Bodington's ideas met with the bitterest and most violent opposition, and dissent was so strongly expressed by the general body of the medical profession that he was neither able to pursue his investigations, nor carry out the practice of his treatment to any great extent.

In 1856, Dr. Herman Brehmer wrote his celebrated thesis on *Consumption and its Curability*, and three years later obtained, after considerable difficulty, authority to build a sanatorium for his good work at Goerbersdorf.

In 1874, Dr. Dettweiler, his pupil, with the help of a few of Frankfort's wealthy citizens, opened the celebrated institution for the treatment of consumption for the wealthier classes, at Falkenstein, and from the profits thereby gained there is to-day at Ruppertshain, close by, one of the best sanatoria for the poor in Germany. It may be safely affirmed, that to the labours of Brehmer and Dettweiler, to the success of their untiring energies and individual supervision, we owe to-day the universal adoption of the most successful mode of treatment of a disease, the very name of which had always been looked upon as a death sentence to so many of our brightest, our cleverest, our most loveable.

Gradually, but slowly, the doctrines of this common-sense and rational treatment have been practised all over the civilised world, and in many countries have been acted upon with considerable success. In England, until recently, an unaccountable apathy has pervaded the minds of the people; and from being once in the forefront of charitable institutions for her consumptives, she has been gradually drifting far behind. The National Association for the Prevention of Consumption has done a great deal to stir up interest, if not enthusiasm, in our land, and we are hoping for still more help from the International Congress on Tuberculosis, which is to take place next year in London, under the presidency of H.R.H. the Prince of Wales.

Though lay writers, in a lay press, have also done much to bring the new method of treatment before the English public, I fear, from too great enthusiasm, they have been led to be far too superlative in the recount of their "experiences," and thus have done a certain amount of real harm. To build up extravagant hopes of wholesale cures in a short time, can only handicap most seriously the adoption of the most successful treatment of any dangerous and deadly disease. The only true and right way to allow a new idea of treatment to be universally applied, and to assure a general active interest and co-operation

in the modes of carrying it out, more especially among the poorer classes, is to make the public definitely understand the *rationale* of its application, and the large amount of good it must do, not only by curing certain cases, but, what is still of equal importance, by preventing the spread of a disease which science now tells us, with no uncertain voice, can in time be rooted out.

In what then does this new treatment consist? What may we reasonably hope from it? How can we best enable our poorer classes to obtain the benefits to be derived from its application?

Luckily, there is nothing controversial about it. It does not emanate from the brains of a few enthusiastic faddists; neither is it the idea of money-making quacks. It is supported by the most eminent and most scientific medical men in the civilised world. It has already proved beyond contention its great value. It is doubtful whether the name "open-air treatment" is comprehensive enough, though it may be difficult to find a more suitable one. Some have suggested "hygienic treatment," but this does not, I think, sufficiently convey to the lay mind the salient features of its methods.

Generally speaking, we may say that the rules by which we hope to successfully combat many cases of consumption are the following:—

Fresh pure air, and an abundance of it, not only by day, but also by night; a generous dietary, both in quality and quantity; properly regulated exercise in the open air, and properly regulated rest; a gradual training whereby the patient is able to live out of doors in almost all weathers, without fear of catching cold; freedom as far as possible from mental worry; and, lastly, *unremitting medical supervision.*

The individual medical supervision is indeed of the utmost importance. Plenty of fresh air, plenty of good food, will avail but little if the daily life of the patient is to be left to his own willing, and he is allowed to "do as he pleases." In an article on this subject in the *Year-Book of Treatment* for 1899, Dr. Burton Fanning emphasises this point: "Hitherto we have failed in our management of phthisical cases through lack of insistance

and perseverance. In our heart of hearts we have been inclined to regard the disease as an intractable one, and we have therefore had insufficient confidence in our treatment of it. The patient has not been convinced that particular rules are worth following to the letter, and that the difference between recovery and permanent ill-health may depend on whether he devotes himself absolutely to a certain mode of life or follows it in a haphazard, intermittent fashion. Recognising the difficulty of enforcing a *régime* which is antagonistic both to the patient's prejudices and former habits, without removing him from home, so far, this treatment has been mostly carried out in large sanatoria."

The open air purifies the blood, promotes appetite, and aids assimilation; the general treatment and the rules and regulations laid down by the thoughtful medical man, who has studied the individualities of his patient, fortifies the system to resist the disease.

In carrying out the treatment to the fullest extent, and in order to give the patient the greatest chance of recovery, situation and surroundings are important factors. We need not insist upon any definite climate, for it has now been pretty well proved that climate exerts only a secondary influence on results. But it is essential that the air should be pure, and free from dust; that the soil should be dry; and that the situation should be of such a character that the patient may be able to sit out in the open air, and take regulated exercise. It is therefore self-evident that numberless consumptive patients cannot be properly treated in their own homes, and more especially is this the case among our poorer classes; and the stern necessity for some suitable place to which our poorer consumptives can be sent for treatment becomes at once clear. Sanatoria for the richer classes are springing up in all directions, but so far little has yet been systematically done in England towards the erection and maintenance of these institutions for the poor; though we all ought to recognise, as a writer in the *British Medical Journal* pointed out, with regard to consumption among the poor, that "their poverty prevented their isolation, their ignorance caused neglect of precautionary

measures, and their surroundings increased so greatly the susceptibility to infection."

Take the large city of Bristol. Realise for a moment the number of consumptives belonging to the poorer portion of the community, and ask yourselves, How can they at the present time be properly treated? Will your hospitals admit them? And if they do, can they be isolated, can they be treated in the manner I have already described, and are the situation and surroundings at all suitable? Can they possibly hope to obtain any real benefit from attending the out-patient department? Can they be treated with any reasonable hope of success in their own homes? Where are they then to obtain treatment, where can they hope for some chance of escaping from their otherwise inevitable doom, and how can they be prevented from disseminating the seeds of their frightful disease, if we do not provide an institution specially adapted by its site, its surroundings, and its management, not only for their care, but also for their cure?

I do not intend to burden this short article with statistics, nor do I desire it to be thought that I believe that the open-air treatment is a sure and certain remedy for this terrible disease; but I do most emphatically say, that in the history of medicine no other form of treatment of consumption has ever been in any degree so successful, and that, provided the patient be placed under its influence in the very early stage of the disease, the percentage of "arrest" or "recovery" is very high.

When we realise that in England and Wales alone some 60,000 die each year of this complaint; when we hear, that in one large city of England last year, every time the clock registered its four hours a death from consumption was taking place; and when we are told by science and practical experience that many of those lives might have been spared had they been treated by these new methods, ought we to hesitate a moment to do all in our power to give everyone under the direful influence of this insidious and dreaded disease the only means whereby they may be enabled to resist its ravages?

In Germany, where the open-air sanatoria for the poorer classes have lately been so largely established, it is roughly estimated that about 30 per cent. can be reported as "cured," and that another 40 per cent. can be marked down as "greatly improved." These results are not in any way due to the influence of climate, but simply to the treatment already described. Knowing all this, is it not our bounden duty to use all the appliances science has given us to bring about what some will call an "arrest," others will designate by the more cheering name of "recovery," but what, call it as you may, is in numberless cases a priceless boon?

How then can we hope to start such institutions, how can we expect to maintain them? I will at once state my very firm opinion that the Boards of Guardians all over our country, either separately or in combination, ought to provide suitable places in which the rate-supported consumptive could be properly treated, *and that this ought not to be left to private charity.* For the classes above these, we cannot expect, I fear, any help from Local Government, and we must look to the good and kind feelings of those who have been blessed with the wherewithal to give.

To build and equip a sanatorium for sixty patients, not counting the land, ought not to cost more than £200 a bed. The simpler the building, the better, and decorations should be conspicuous by their absence. It is clear we shall have to look to private philanthropy to enable us to build such institutions in certain districts of our land. Already some have been started, and generous donors of large sums have come forward to materially lessen the difficulty of raising sufficient funds, and I do not for one moment believe that our West of England will allow itself to be left behind in this good work. To maintain such an institution would, I think, cost between £60 or £70 per bed per annum. I know some of the recently started sanatoria for the poor have reckoned on a lesser sum than this; but I fear they will find that the expense of the liberal dietary, so essentially necessary, will prove their figures to be under the mark.

How then can such an annual sum be raised? I would

first of all suggest that clubs and friendly societies should amalgamate in their respective districts, and should subscribe a certain sum yearly, having in return a claim of beds according to the amount of their subscriptions. Factories and large works might do the same, and I believe Town Councils and County Councils have it in their power, or could obtain power, to subscribe to such a good cause. Then those patients seeking admission, who could not procure a ticket from any of these bodies, should either pay themselves a small sum per week, or get some of their friends to help them, as is the case at present in most of our convalescent homes. The balance required to meet the expenses of maintenance should be readily collected from the district to which the sanatorium belongs.

It must be generally understood that these institutions are only for recoverable cases, and it should be strongly urged upon all medical men to do their utmost to send the cases at the earliest possible moment after diagnosis of the disease. The average length of time in the sanatorium to be allowed each case should, I think, be left in the hands of the committee managing the institution, who would of course be guided by their medical superintendent; but we may reasonably hope that a sanatorium for sixty beds would be able to treat at least 120 to 150 cases per year, and more even than that, if only cases in the very early stage were sent there, and if some after-care association could be started in conjunction with the sanatorium. This is rather beside my subject, but its importance must strike everyone who has taken any interest in this treatment, and might form the basis for another paper.

To take a case of early phthisis from the close atmosphere of a factory or an office, and from the unhealthy dwelling-house in a crowded thoroughfare, to cure or arrest the disease, and then to send the case back again to the same atmosphere, must inevitably mean relapse. We hear a great deal about the moving of the rural population into towns, about the difficulty the farmers of our country have to get helpers in their work. May we not here find a partial solution of one of the greatest difficulties in the after-care of our so-called "cured consumptive"?

In Germany, all persons directly they enter on a career as labourers or servants have to insure against sickness, accident, and old age. These State Insurance Companies have very materially helped forward the building and the maintaining of the sanatoria for the poor, and directly consumption develops in any of the members of these companies, the case is at once sent to one of the sanatoria. Dr. Weicker, of Goerbersdorf, to whose institution a large number of such patients are sent, informed Dr. Knopf, whose work on *Pulmonary Tuberculosis* is of the deepest interest, that the percentage of cures among these is higher than among the private patients. His latest statistics give a percentage of 80 established cases with only an average of 76½ days' sojourn in the sanatorium. This marvellous result proves how vitally important it is to send the consumptive for definite treatment at the earliest possible period of the disease.

Sir James Crichton Browne, whose friendship I value and whose ability I admire, and whose interest in the establishment of sanatoria for the poor is so great, recently declared that he believed if the public realised what could be done by united effort to stamp out the disease, England might be freed from its grip in, comparatively speaking, some seventy-five years. A very utopian idea, some of you may say, and yet there may be more truth in it than at first appears.

Pasteur has told us that "it is in the power of man to cause all parasitic diseases to disappear from the world." The worst of all parasites is that discovered by Koch, the bacillus tuberculosis. To exterminate this enemy from our midst, we must first cure our curable consumptives, while at the same time we are teaching the public the means whereby they may prevent any further spread of the disease. To do this, nothing is more essential than the introduction of properly situated, properly equipped, and properly managed sanatoria for our rich and our poor. The rich have the remedy in their own hands, and already have large numbers of such places both in this and other countries to choose from; but for those who cannot help themselves, it becomes the duty of all to do their very utmost to help forward a movement, by which each

district in our land shall have such an institution for the treatment of its poorer consumptives.

To carry this good work to a successful issue, united effort is needed; enthusiasm, like the disease we wish to banish, must be made contagious; the goodwill of an intelligent people must be awakened; and, finally, we must be able of each one of the wealthy in our midst, of a truth to say—

> "He hath a tear for pity, and a hand
> Open as day for melting charity."

THREE ABDOMINAL CASES PRESENTING SOME UNUSUAL FEATURES.[1]

BY

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THREE cases involving abdominal operations have come under my care during the last three or four months at the Infirmary presenting some points so much out of the common that I think it is worth while to bring them before your notice:

CASE 1.—On a Sunday evening, a little before Christmas, I was summoned to a case of perforated gastric ulcer which had just arrived at the Royal Infirmary. The patient, a domestic servant, æt. 19, had been driven up twenty miles in a cab, and was almost *in extremis*. There was a definite history of perforation occurring at two o'clock in the morning, and she had been allowed no nourishment or stimulant by the mouth since. I operated at 8.30—eighteen hours after the perforation—making a median incision above the umbilicus. Running my finger along the anterior surface of the stomach, I found the laceration to be towards the cardiac end. I made a transverse cut through the left rectus abdominis and exposed the stomach wall. This had two openings in it, a small one and a large one which would easily admit two finger-tips. The condition of the wall of the viscus for a considerable distance round the openings was such that any attempt to get stitches to hold was futile, and the whole area before healthy tissue was reached was too large to be excised. In consistence it seemed like thick, rather rotten, orange peel. After one or two attempts to sew up the holes I abandoned them, and packed iodoform gauze from the

[1] Read before the Bristol Medico-Chirurgical Society, May 9th, 1900.

abdominal wound to the rent in the stomach, leaving a large indiarubber drainage-tube in the centre of the gauze. Previously to this I had mopped out the peritoneum in the immediate neighbourhood, and put a drainage-tube through the flank in front of the left kidney. The patient was in a critical state before the operation, and naturally afterwards her condition was most serious. For some days she was kept alive by nutrient enemata and the wound began to heal. The tube was slowly pushed out and shortened, and I ventured upon giving her some liquid nourishment by the mouth; and at the end of three weeks she was able to digest pretty well, and I had strong hopes of her ultimate recovery. However, her temperature went up, and some pleuritis came on; and a little later, about five weeks after the first operation, a needle passed deeply in above the tenth rib on the left side proved pus to be present. Empyema was diagnosed. She therefore was put under an anæsthetic, and I made an incision into the pleura under the tenth rib. I could find no pus in the pleura, and I excised two inches of the rib and sewed the diaphragm to the parietal wound, and then cut through the diaphragm and successfully passed a sinus forceps into a subphrenic abscess, and put in a drainage-tube. I am sorry to relate that, though the temperature fell, this did not ameliorate all symptoms, and she died three days after the second operation and six weeks from the first. The autopsy showed (1) that there was complete union of the rents in the stomach; (2) that the subphrenic abscess was properly drained, but (3) that there was an abscess in the top of the *right* kidney of which we had no evidence.

Case 2.—The patient, a woman, æt. 37, was admitted at the Infirmary on March 1st, suffering from abdominal symptoms. She had had an attack of what was probably appendicitis nine years before, and had been since habitually very constipated. Now she had been ill for two days, with pain in the front of the abdomen and vomiting. Her bowels had moved slightly in the morning, and she was somewhat under the influence of morphia. After trying the effect of an oil and a simple enema, which was unsatisfactory, I thought an immediate operation advisable. Five hours after admission, I opened the abdomen in the middle line below the umbilicus, and at once came down upon the seat of trouble. There was a mass of matted intestine near the middle line, just under the abdominal wound. There was a very long appendix, thin and isolated, like a band, stretching from the right iliac region to this matting, where the intestine was firmly adherent to its head. It was difficult to unravel this, so firm were the adhesions, so I cut off the appendix at its root and treated the stump with pure carbolic acid. On attempting again to free the matted coil, I found that in one part it was quite impossible. It was as if the head of the appendix had become attached to the mesentery of a loop of small intestine, and the peritonitic bands surrounded the proximal end of the loop so tightly that the intestine was very much compressed; the distal end of the loop would permit of invagination of the little finger, and could be stretched. I could not free the bands round the proximal end, and slightly tore the intestinal wall in my attempt, so I put enterectomy clamps on the bowel and excised about two inches of intestine with a V-shaped piece of mesentery. I sewed the two ends of the bowel carefully together with two continuous silk Lembert sutures, one from each side of the mesenteric attachment, and tied the two sutures together on the side of the bowel opposite the mesentery. I also sewed up the V-cut in the mesentery by silk, passing the stitches right through to arrest some bleeding. I will not trouble you with details of after-treatment. The patient made a good recovery, though there was some

suppuration three or four days after in the abdominal wound, cultures from which showed the presence of bacterium coli, and I was afraid a leak had taken place and a fistula might form. However, it all healed perfectly soundly, and the patient was able to take fish or fowl after the eighteenth day. She was discharged on April 14th, just over six weeks from the operation, able to eat anything, and having regular and painless action of the bowels.

Case 3.—A woman, æt. 53, was sent to me April 4th by Dr. Browne, of Brynmawr, Breconshire, for treatment of an ovarian tumour. The patient had noticed the swelling for about one year, and the menopause had occurred five or six years ago. I give great credit to Dr. Browne for his diagnosis, as I think all the Infirmary surgeons from external examination were of opinion that the case was one of fibroid tumour of the uterus. One of the resident staff remarked that in three cases of solid ovarian tumour that he had seen there was effusion in the right pleura, and there was effusion in the present instance. The operation was simple, though I had to enlarge the wound to above the umbilicus, so great was the mass. The tumour was a large single solid unadherent ovarian, and was easily removed, the pedicle being tied with silk. I brought the abdominal wound together with silkworm-gut sutures taken through skin, muscle, peritoneum,—peritoneum, muscle, skin. Such has been my custom always, and I have never seen any bad result from the plan. All went well for ten days, when I was summoned down to the Infirmary in the middle of the night, because the patient had signs of intestinal obstruction. She was vomiting, but not distended, and an enema brought about no action of the bowels, though she passed some flatus. I ordered a turpentine enema, and next morning, as there was no relief, I opened the middle of the old cicatrix, and found the intestine matted and firmly adherent to the parietes at the wound. I separated all this with the handle of the scalpel, and brought down a piece of omentum and spread it out to lie between the bowels and the abdominal wall, and sutured the wound in the same way as before. Since then she has had no bad symptoms, and is now up and well, and going home.

In the gastric ulcer case, the points I wish to bring forward are :—First, that the perforation healed without the edges being brought together, but simply by gauze drainage down to the outside of the laceration in the stomach; and, secondly, the method adopted of getting at the subphrenic abscess. After removing a piece of rib—the diaphragm at this part lying close to the thoracic wall—there was plenty of room to attach the diaphragm to the wall, and so make the opening for a drain safe from contaminating the pleural cavity.

In the enterectomy case, the reason I chose close stitching of the peritoneal covering of the bowel in preference to the use of Murphy's button, or any other treatment, was, because I thought I could do it more quickly, and every minute was of importance in the state the patient was then in. If two needlefuls are used, started from a firm knot at the mesenteric

attachment and tied together on the opposite point of the bowel, the proceeding can be done very quickly, the chief danger being in making the circle of stitches too tight.

In the last case is there any possible connection between effusion in the pleura, and solid ovarian disease? I cannot see that there is. Secondly, is it not the safest method of closing the abdominal wound to include the peritoneum in the suture? In my opinion sewing only the skin and muscles, and leaving a double edge of cut peritoneum free towards the cavity, is much more likely to give a chance of adhesion to the bowel than when the peritoneum is neatly kept forwards into the wound by the sutures. Do the silkworm-gut sutures passing into the cavity give a special chance for the intestine to become adherent to them?

A CASE OF DIFFUSE LEONTIASIS OSSEA.

BY

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THIS very uncommon case is probably one of leontiasis ossea of the diffuse variety. Ziegler[1] calls it "partial gigantism," which "affects the bones of the cranial vault as well as those of the face. The overgrowth is sometimes uniform, at other times irregular. . . . Virchow has termed the condition leontiasis ossea."

The ætiology of this disease is obscure. The enlargement of the bones must be either simple hypertrophy, new growth, or chronic osteitis. The appearance negatives either of the first two, and taking the last view, there is some difference of opinion as to the cause. The majority of cases recorded have had a history of injury, but without being sufficiently definite to be put forward as a certain cause; in some cases the malady seems to be quite clearly connected with the injury.

[1] *Special Pathological Anatomy*, Sect. i.—viii., 1896, p. 208.

CASE OF DIFFUSE LEONTIASIS OSSEA.

(THE SCALE OF REDUCTION OF THE DIFFERENT SPECIMENS IS NOT UNIFORM.)

Bland Sutton thinks that rickets is the fundamental cause, and in this case the scoliosis and pelvis might be regarded as support in this direction, but the appearances were not those of rickets. They were both probably static in origin and due to the weight of the head. There is no tendency in the pelvis or in any of the long bones of the lower limbs towards buttress formation, which is so common in rickets.

In this case there was an injury when the child was only a few years old, which took some months to heal; but whether this could have been the starting-point of a very slow and spreading inflammatory process or not, it is impossible to say.

F. K., female, aged 21, born in 1878. Admitted to Royal Infirmary, Bristol, in December, 1899, for sore throat and dyspnœa, from which she died suddenly the same evening, tracheotomy failing to restore breathing.

Father and mother alive and healthy. They were not blood-relations. Mother has had eight children, this one being the second; labour a little tedious, otherwise natural. She has had three miscarriages since. No evidence of syphilis in parents or other children. No other member of the family on either side similarly affected. No phthisis or mania.

As a baby there was nothing abnormal noticed. When three years old she fell, cutting her forehead, for which she was in the General Hospital for several weeks, and afterwards as an out-patient for about a month; the wound, which had been suppurating, had then healed, and gave no further trouble. When seven years old, the mother first noticed the child's head was larger than natural; but this must have been developing for some time, as next year the child was taken from school on account of remarks made by the other children, and as it has always grown larger so slowly, it could not have developed enough for these remarks in one year. As a child she was mentally as other children, and has never been in this respect deficient. When twelve years of age, she was in the Royal Infirmary, for dacryo-cystitis, under Mr. Richardson Cross, and at this time was supposed to have hydrocephalus. The canaliculus of the right eye was slit up, "but a probe could not be passed on account of abnormality of nasal bones." When 19 she was admitted again, under Mr. Paul Bush, having fractured, by a slight fall, the lower end of the right femur, and at the same time dislocated the right patella outwards. There was synovitis of the knee-joint. A month after admission there was no union, but a month later she went home with the fracture firmly united. Since then she has occasionally been to the Infirmary for some slight ailment, and the head has been noticed to have gradually grown larger. The first recorded measurements were in 1897, when the bi-temporal diameter was $8\frac{3}{4}$ in., and the horizontal circumference from this spot was $30\frac{3}{4}$ in. From the most prominent part of occipital bone to glabella was $21\frac{1}{2}$ in., and the diameter between these two points $10\frac{3}{4}$ in. In 1899 the only recorded measurement which corresponds was the circumference in the same region, and it was then $31\frac{1}{4}$ in. The lower-jaw deformity, the mother considers, began about the same time

as the head. For the last six or seven years she had always stayed at home, and was a great help to her mother in looking after the children, but never was any use in housework, as she tired easily, and when sitting down often rested her head against the wall or laid it on the table. She never had any fits. In December, 1899, she came for the last time to the Royal Infirmary. For some days before admission she had a sore throat and difficulty in swallowing. She was admitted under Dr. Waldo. Her condition then was very serious; she had a great deal of inspiratory dyspnœa. The palate was pushed forward by something firm and was inflamed. At first sight the girl seemed to have enormous hydrocephalus, but the eyeballs were not displaced downwards or forwards, and the head felt much harder and heavier than it does in that disease. The left side of the lower jaw was much enlarged from the symphysis to the angle, and the right side was also enlarged along the horizontal ramus. She had a double lateral curvature and rotation of the vertebræ, with corresponding deformity of the chest. The femora and tibiæ were bent somewhat, and there was flat-foot on both sides. The knee-jerks could not be obtained. The terminal joints of all the fingers, especially the third and fourth, were deflected towards ulnar side, and were also partially luxated dorsally and had very deficient movement. The thumbs were not affected. Sight, hearing, and smell were natural.

Post-mortem Examination. — The skull was enormously and almost uniformly thickened. All the bones were affected, including those of the face. The cerebellar portion of the skull was very protuberant, dipping down towards the neck, and measured in thickness here almost three inches. The forehead was very large and rounded. The orbits very deep from before backwards, but diminished in size vertically and horizontally. The foramina in the skull did not appear anywhere to be reduced in size. The bones of the skull on section were for the most part softer than natural, but the appearance was not quite homogeneous. In parts there were masses of more compact tissue, and in others the rarefaction had proceeded to such an extent as to leave spaces of an eighth of an inch in diameter. The half skull without the lower jaw weighed seven pounds and a half. The lower jaw weighed one pound. The least affected portion was the occipital bone just round the foramen magnum. The interior of the skull looked fairly natural, except that the pituitary fossa was partially obliterated.

The lower jaw had a few temporary teeth on the upper surface in the region which previously had been the alveolar ridge, and several of the permanent teeth were lying buried in the under-surface of the bone, quite on its lower aspect. The whole of the horizontal ramus was enlarged and rounded;

the compact shell was expanded and filled with very porous bone, containing a quantity of very slimy, gummy material, which poured out when cut into. The upper parts of the ascending ramus and coronoid process were nearly natural.

The vertebræ presented the usual changes of scoliosis, but otherwise they and the ribs had a normal consistency. The pelvis was very light, very soft, and much distorted; it was markedly generally contracted, scoliotic, funnel-shaped and beaked. The femora were both bent and a little softer than natural. The tibiæ were also bent, and in some places the external compact layer was replaced by softened bone developed from the periosteum. Both feet had their arches flattened. There was no overgrowth in any bone apart from the head. The sternum and ribs seemed natural on section and did not break more easily than usual. The naso-pharynx contained a firm, white, new growth, attached to the hard and soft palate on their posterior surface, and extending into the right parotid region. The brain weighed 47 ozs. and was natural. Pituitary body normal. The thyroid had a mass resembling new growth in the right lobe.

A section of the naso-pharyngeal growth shows it to be a fibro-sarcoma, containing numerous myeloid cells. This must be regarded as something quite apart from the bone condition. The mass in the right lobe of the thyroid gland on section somewhat resembles the thyroid in exophthalmic goitre, in that the alveoli are lined with several layers of cubical cells, projecting in some places nearly a third of the way into the alveolus.

The organs in the chest and abdomen showed nothing noteworthy, except the liver. The pelvic organs were natural. The liver contained several round nodules, the size of small marbles, which looked like new growth, otherwise its appearance and weight were natural and fat was not suspected. The liver shows very extensive fatty infiltration and diffuse cirrhosis, the new small-celled infiltration surrounding small masses of detached liver-cells ranging from five or six to twenty or so. The portion which was thought, naked eye, to be a new growth has a fibrous sheath, but otherwise presents the same appearance as the rest of the section.

The possibility of the osteitis being syphilitic must be considered, and is impossible to negative. Sections of the liver resemble congenital syphilis more than anything else.

The other diseases which one must consider are multiple myelomata or myelopathic albumosuria. The urine was not examined for albumoses, as she died the evening of admission; but although there was softening of the bone, with fragility, the growth of the skull and the age of this patient are quite unlike such cases. They have been described as "general lymphomatosis of bones, occurring in old men, with increasing kyphosis, severe pains in the bones, and progressive debility."

Paget's disease, which the thickening of the skull at first suggested, does not occur in children, does not affect the bones of the face, and generally is well marked in some of the long bones.

Acromegaly affects hands and feet as well as face-bones and not so much the cranium, and the pituitary body was not enlarged. There is almost nothing suggestive of cretinism or of achondroplasia in this case.

The author has to thank Dr. Waldo and Mr. Paul Bush, under whose care this case was, for their kind consent to his publishing it; also Mr. J. C. Clayton for the excellent photographs taken of it; and Dr. S. V. Stock, who kindly prepared the microscopic sections.

FORTY CASES OF OPERATION FOR APPENDICITIS.

BY

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IN considering the question of operation in appendicitis it is necessary to estimate the mortality of the operation and that of the disease without operation. In none of my cases, in which general peritonitis was absent at the time of operation, have the patients been any the worse for the operation.

As a perusal of the table will show, I have operated in nine cases of suppurative appendicitis, in which adhesions to the parietal peritoneum were not present, and it was therefore necessary to evacuate the pus through the general peritoneal cavity, and yet there is evidence that in no case have I produced a general peritonitis. In these cases the prevention of infection of the general peritoneal cavity will depend on the care and thoroughness with which the mass of adherent coils and omentum around the pus is shut off from the general cavity by gauze or sponge packing. If this is not efficiently done the risk of operating in such cases is undoubtedly very great. I have elsewhere[1] fully described the method which I employ in these cases, and which is based on McBurney's practice.

Even in cases in which pus can be reached without opening the general peritoneal cavity, we find when we get to a certain depth in the wound much uncertainty as to what the thickened tissue beneath may be. We fear to make an opening into the bowel which we suspect is adherent to the parietal peritoneum, and we have to work with the point of a director or the finger tip until we burrow into the abscess, and in such cases it is always with a feeling of relief I see the pus flow out. I have never in such a case made an opening into the adherent bowel instead of the abscess-sac, but I never operate in these cases without the fear that I may do so. That the tissue is resonant is not evidence that it is bowel, for these fœtid abscesses often contain gas, and even when they do not, the collection is so close to the bowel there is not true dulness unless it is very large.

It is not possible to be sure by the duration of the illness that the pus can be evacuated without opening the general peritoneal cavity. I have operated on some cases as late as the eleventh day, and found no adhesions to the parietal peritoneum. We should never operate without being prepared to shut off the general cavity by gauze or sponge packing.

Apart from the presence of general purulent peritonitis, I have had four deaths after operation.

In case 24, death was due to continued suppuration many months after operation, and life might have been saved if consent had been given to an operation for removal of the appendix.

[1] *Bristol M.-Chir. J.*, 1899, xvii. 210.

In case 13, death was almost certainly due to rupture of a large abscess into the peritoneal cavity during the struggling of anæsthesia. I had advised operation in this case two days earlier. The abscess was opened without entering the general peritoneal cavity, but although the sac was very large, there was very little pus in it. As soon as he came round from the anæsthetic he complained of great abdominal pain, and dyspnœa set in, and he died in a few hours; unfortunately no *post-mortem* could be obtained. He was a publican, and had diabetes.

In case 28, the cause of death was obscure. There was no general peritonitis. The pus was found *post-mortem* to have eroded the parietal peritoneum and to have covered the kidney. The collection, no doubt, at first lay between the cæcum and ascending colon, and the parietal peritoneum of the loin. An earlier operation would almost certainly have saved the boy's life.

Case 8 was a desperately bad one. The boy had been ill some time, there was an enormous collection of offensive pus in the iliac region, which had burrowed into the inguinal canal and simulated hernia. So much serous fluid was present in the general peritoneal cavity that shifting dulness was present in the flanks, and the boy also had pneumonia at one base. He greatly improved for a week after the abscess was opened, and then developed pyæmia and died.

I am sorry to say I have never saved, by operation, any case of appendicitis complicated by purulent peritonitis. I nearly saved one, case 37. The boy had no pain, hardly any sickness, and very little distension of the abdomen, during the week he lived, after removal of the appendix and flushing and draining the peritoneal cavity. *Post-mortem* a moderate amount of peritonitis remained.

This case was operated on early, and, together with the records of cases by other surgeons, may, I think, encourage us to operate in such cases. In a late stage of general peritonitis, operation seems to me practically hopeless,—indeed, I fear in most cases it brings about the fatal termination some hours sooner than it would otherwise occur. But as such cases are absolutely hopeless without operation, probably it is worth taking the risk of a few hours less of life in extreme illness for some chance of recovery, even though a small one.

Although I have never saved one of these cases of appendicitis, complicated by general peritonitis, I have had a recovery after flushing the abdominal cavity in a case of general peritonitis from another cause,[1] and also after the same treatment in a case in which a large pelvic abscess had given way into the general peritoneal cavity, just before I opened the abdomen, but peritonitis had not started.

I have not considered cases with serous fluid in the general

[1] *Bristol M.-Chir. J.*, 1897, xv. 325.

peritoneal cavity, even when abundant, as examples of general peritonitis, as some surgeons seem to have done, in recording recoveries after operation for general peritonitis. This condition of serous effusion into the peritoneum is not very rarely associated with appendicitis and may be recovered from by simply draining the localised collection of pus. By general peritonitis, I mean that purulent fluid, as well as other morbid conditions, is present in the general peritoneal cavity.

In operating for appendicitis, with the exception of operation performed in the quiescent period in recurrent appendicitis, I have only in one case failed to find pus.

In this case (No. 31) the illness had persisted for ten days, and very marked general tympanitic distention of the abdomen was present, and the boy was crying out with pain. It was a recurrent case, and I was able to remove the appendix with very satisfactory result.

The case shows how severe and persistent the symptoms may be in a recurrent attack.

In case 30 the condition was almost the same. The boy had been ill for three weeks, and had had previous attacks. There was very little pus, and I was able to remove the appendix with a satisfactory result.

It is necessary now to estimate, as far as possible, the risks of appendicitis without operation. If the symptoms are slight and speedily pass off, obviously the risk is *nil*, though I have found that in some cases such attacks have been present before an attack of suppurative appendicitis has occurred. The more urgent risk in appendicitis is the onset of general peritonitis, the more remote, hepatic or general pyæmia, or gradual exhaustion from prolonged suppuration and hectic. Let us take the common risk first. If the case begins with severe symptoms we cannot, from the symptoms and general condition of the patient, be sure it is not one of general peritonitis from the first. We can tell in most cases, from the condition of the abdomen, but not in all. I should regard general tympanitic distention, marked general hardness of the belly-wall, and general tenderness, with the thoracic type of breathing, as signs of general peritonitis, and an indication for immediate operation, at any rate, if the patient were seen early in the illness. But I know there are cases of appendicitis in which

TABLE OF FORTY CASES OF OPERATION FOR APPENDICITIS.*

No.	Initials.	Age	Seen in consultation with or sent to me at Hospital by	Result.	Date.	
			Cases in which an abscess could be drained without opening the general peritoneal cavity:			
1	M. ...	18	General Hospital ...	Recovered in a month ...	July, 1894	Fæcal discharge third day—lasted a week.
2	J. D. ...	17	General Hospital ...	Healed in 6 weeks	April, 1895	Temperature 103° and 104° second and third day, then fell to 99°-100° for 24 hours, then increasing daily till an abscess opened on twelfth day.
3	R. P. ...	11	General Hospital ...	Healed in 6 weeks	July, 1895	
4	Mr. C.	20	Dr. Belfield	Recovered	June, 1896	Sinus did not close for several months.
5	W. G....	1	General Hospital ...	Recovered	Oct., 1896	Extra-peritoneal abscess extending into thigh after second attack. Discharged well two months after operation: discharge recurred, but sinus finally healed.
6	E. T. ...	7	General Hospital ...	Recovered	Sept.,1897	Abscess very large, and reached from Poupart's ligament to well under ribs. Occasional fæcal discharge for two months. Did not close for five months.
7	Miss W.	40	Dr. Colman	Recovered	Sept.,1897	Sinus persisted for two years; but patient got about. Two appendix concretions discharged, and sinus at once healed.
8	G. P. ...	7	Mr. W. F. Carter ...	Died	April,1898	Pneumonia present at one base at time of operation. Improved greatly for a while after abscess opened, and then pyæmia supervened.
9	Mr. C.	35	Dr. Mather	Recovered	May, 1898	Some fæcal discharge for a few weeks. Sinus closed some weeks later.
10	A. W....	24	Dr. Belfield	Recovered	Feb., 1899	Sinus persisted, and appendix removed in May. Sinus did not close until many months later. Never any fæcal discharge.
11	Miss B.	20	Mr. A. W. Peake ...	Recovered	April,1899	Sinus persisted several months.
12	C. ...	10	Mr. A. W. Peake ...	Recovered	Aug., 1899	Sinus persisted several months.
13	Mr. G.	42	Dr. Belfield	Died	Aug., 1899	Diabetes. Very large abscess; ten days duration. Refused operation two days earlier. Died a few hours after operation, probably from rupture of abscess into peritoneum in struggling under anæsthetic.
14	A. B. ...	21	General Hospital ...	Recovered	Aug , 1899	Secondary abscess found in pelvis, and felt per rectum; but discharged through old sinus, and sinus closed; has had but two recurrent attacks since.
15	A. G. ...	13	Mr. J. W. Taylor ...	Recovered	Mar., 1900	Second attack. Sinus persisted some months.
16	Mr. M.	60	Mr. F. Peake	Recovered	Mar., 1900	Pus extra-peritoneal, under cæcum. Discharged six weeks after operation, practically healed.
17	H. S. ...	20	Dr. McKenzie... ...	Recovered	April,1900	Sinus closed two months after operation.
18	A. H. ...	20	General Hospital ...	Recovered	April,1900	Discharged seven weeks after operation. Sinus not then closed.
19	A. W. B.	32	General Hospital ...	Recovered	Aug., 1900	Many previous attacks. Illness of three weeks duration. Small quantity of extra-peritoneal pus. Discharged practically healed one month after operation.
20	Miss H.	48	Mr. A. W. Peake ...	Recovering	Oct., 1900	

	Cases in which it was necessary to operate in general peritoneal cavity, and shut it off with gauze or sponge packing before evacuating the pus:					
21	A. W....	22	General Hospital ...	Healed in 5 weeks	May, 1895	
22	W. T...	8	General Hospital ...	Recovered	Feb., 1896	Only adherent to parietal peritoneum at one spot. In peeling off peritoneum here, it leaked. Pus caught on sponges. No infection of general cavity. Discharged one month after operation, practically healed.
23	A. W....	10	Children's Hospital...	Recovered	May, 1897	Pus escaped on manipulation of adherent coils and appendix after peritoneal cavity opened, and therefore general cavity flushed out. Appendix removed. Secondary abscess in liver drained. Case reported, *Bristol M.-Chir. J.*, 1897, xv. 323.
24	Mr. C.	16	Mr. J. W. Taylor ...	Died	Mar., 1898	Sinus persisted, and fresh foci of suppuration formed. Parents refused to have appendix removed. Died six months after first operation.
25	W. B....	10	Children's Hospital...	Died	Dec., 1898	Died two days after operation. No general peritonitis at post-mortem. Perforated appendix. Pus in abscess. Sac lay in contact with the kidney, on which were patches of lymph.
26	Mr. A.	30	Dr. Albert T. Morgan..	Recovered	April, 1899	Pelvic abscess in a man, almost certainly appendicular in origin.
27	R. O. ...	32	Dr. Maddison... ...	Recovered	June, 1899	Not adherent to parietal peritoneum after eleven days. Fæcal discharge for 24 hours, beginning second day after operation. Discharged from hospital practically healed six weeks after operation.
28	W. D....	26	General Hospital ...	Recovered	Oct., 1899	Not adherent to parietal peritoneum by eleventh day. Discharged five weeks after operation, practically healed.
29	Mr. P.	19	Dr. Ambrose	Recovered	Dec., 1899	
30	F. F. ...	13	Dr. Aubrey	Recovered	April, 1900	Third attack of three weeks duration. Very little pus. Appendix removed.
	A case in which the appendix was removed, but no pus found:					
31	L. B. ...	13	Dr. Maddison... ...	Recovered	June, 1899	Three previous attacks. Severe attack of ten days duration. Perforated appendix removed. Dry adhesions.
	Cases of recurrent appendicitis operated on after subsidence of attack:					
32	G. H....	19	Dr. Wallace	Recovered	Mar., 1897	Five attacks.
33	C. P. ...	32	Dr. Markham Skerritt	Recovered	Aug., 1897	Six attacks. Had valvular heart disease; but took ether well.
34	T. R. ...	33	Mr. T. M. Carter ...	Recovered	Mar., 1898	Three attacks. Movable kidney on same side operated on at later date.
	Cases complicated by general purulent peritonitis:					
35	Female	19	General Hospital ...	Died	June, 1894	Flushing and drainage.
36	Male ...	17	General Hospital ...	Died	July, 1894	Flushing and drainage.
37	Male ...	8	Children's Hospital...	Died	Feb., 1896	Flushing and drainage. Lived a week after operation.
38	V.W.H.	13	Dr. Colman	Died	June, 1897	Flushing and drainage.
39	Mr. H.	36	Dr. McKenzie ...	Died	Sept., 1895	An abscess, shut off from the general cavity, was drained in Sept. 1895. Two concretions came from the sinus five weeks later, and sinus did not close for four months; then got quite well. Attack of general peritonitis six weeks later; appendix then removed.
40	A. G....	42	Dr. Cotton	Died	Aug. 1900	Flushing and drainage.

* These are all the cases I have operated on up to the time this paper was written.

the typical signs of peritonitis are absent, and yet general peritonitis exists from the first. I remember operating in such a case after the boy had been under careful observation for days as a case of simple appendicitis. Murphy,[1] of Chicago, McBurney,[2] and Morris,[3] of New York, point out this liability to error. They say general peritonitis cannot be excluded in a severe case with only symptoms of appendicitis. Mr. Butlin also has drawn attention to the same liability to error in diagnosis.[4]

On the other hand, if we operate early on every severe case, in which only signs of appendicitis are present, we shall, undoubtedly, operate on many which would recover without, and yet I should say—as has been said by other surgeons—the risk of operation is less than the risk of waiting: for if general peritonitis is present the chance of recovery lies in early operation. Some would no doubt rather take the risk of waiting for recovery, as the probable termination of the case would be recovery without operation. By early operation I mean operation in the first 48 hours, and I have had no experience of such. It is seldom I am asked to see the patient, unless either general peritonitis is suspected, or the case has failed to improve after some days of treatment. It seems to me, however, that if an operation is performed at this time, it would not be more difficult to isolate the coils of bowel adherent around a collection of pus within the general peritoneal cavity, than a few days later, and if no pus was found the appendix could be removed and the attack cut short and recurrence prevented.

But if the case does not materially improve by the third or fourth day, I believe the probability that pus has formed is great, and once pus has formed we have to face the risk that it may not remain shut in by adhesions, but may infect the general peritoneal cavity. I believe our rule should be to operate in all these cases—they often do recover without,—but still I think there is considerable risk in leaving them alone. There is the double risk that after all the disease may be

[1] *J. Am. M. Ass.*, 1894, xxii. 302 *et seq.*
[2] *Med. Rec.*, 1895, xlvii. 385. [3] Lectures on Appendicitis, 1895.
[4] *St. Barth. Hosp. Rep.*, 1899, xxxiv. 84.

general peritonitis from the first, or if our diagnosis is correct and the disease is only appendicitis yet pus is very likely to have formed and may become extravasated into the general peritoneal cavity. I have records of two cases in which a localised appendicular abscess ruptured and set up general peritonitis, one in which without rupture general peritonitis supervened, and four in which the symptoms and signs pointed more to simple appendicitis than general peritonitis, but the latter condition was found at the operation. On the other hand, I advised operation in two cases which recovered without. In both symptoms persisted after the fourth day, with well-marked swelling in the appendix region. Whether they have had recurrences or not I do not know. I, however, still think the safer course would be to operate in such cases. But if the case is progressing towards recovery, even when seen as late as several days after the onset, and even though the onset were severe, it is so extremely probable that the patient will recover, I do not think we could advise operation. I have seen several such cases in consultation with a view to operation, and decided not to operate. But I must say I do not feel quite safe in leaving even these cases alone. I have operated for general peritonitis on a patient who was supposed to have practically recovered from an attack of appendicitis by the medical man in charge of the case, and some years ago I made a *post-mortem* examination on a young man—a patient of another practitioner—who was supposed to be progressing very favourably, when he got much worse and very quickly died a week after the onset of his illness, and we found a pelvic abscess from perforated appendix, which had ruptured and set up general peritonitis.

If a patient had symptoms of early collapse, and yet had only abdominal signs of appendicitis, I should unhesitatingly recommend operation, as general peritonitis might very likely be present. If the symptoms were severe at the onset—intense general pain and frequent vomiting,—and both persisted for more than twenty-four hours, I know from my experience of such cases that only appendicitis may be present, but I should not feel quite sure that general peritonitis was absent, even though the abdomen was soft and only slightly distended, the

temperature not much raised and the pulse under 100; and I should therefore consider the safer course to adopt would be to operate. I should be inclined to tell the patient he would very likely recover without, but I should consider it was on the whole a safer course to operate. If the symptoms had persisted for several days when I saw the case I should probably say the same thing with regard to prognosis without operation, but should express a somewhat stronger opinion with regard to the advisability of operation. It is very difficult to define what we consider the right treatment for all cases—we must consider the individual case, but I think I may say that in many severe, and in all persistently severe cases, operation is the safest course to adopt. In a case I could diagnose with certainty as one of either mechanical obstruction or early general peritonitis, I should recommend operation as practically the only chance. It is so different in even severe cases of appendicitis, for the patient may very likely recover without operation. He will almost certainly recover with skilful operation, and considerable risk will be avoided.

What is the value of the presence or absence of a localised swelling in the appendix region in deciding for or against operation? In the cases which appear to be only appendicitis, but really are cases of general peritonitis from the first, no local swelling is present. At the recent discussion on appendicitis at the Medical Society of London, a surgeon expressed the opinion that cases in which the symptoms were severe but no definite swelling was present in the cæcal region were really the most dangerous ones.[1] In cases seen after the first few days the absence of swelling, either on examination of the abdomen or examination per rectum, would I consider be evidence that there was not a collection of pus, and therefore that there was no need for operation on that ground. But it would be needful to exclude a pelvic swelling by rectal examination; and there must not be so much rigidity in the abdominal wall and so much tenderness as to make a thorough examination impossible. But a definite local swelling often disappears, and the patient gets quite well from the attack. I do not therefore think the presence of

[1] Marmaduke Sheild, *Lancet*, 1900, i. 615.

a definite swelling even of some size sufficient indication alone for operation if the patient is clearly improving in other ways. But the steady increase of such a swelling, even with a normal temperature and certainly with a high temperature, I should regard as a very strong indication of abscess formation. The recovery of a patient from an attack of appendicitis without operation is not evidence that no abscess was formed. In the records of some cases of recurrent appendicitis operated on in the quiescent period, custard-like masses are found, which can be nothing else than dried-up pus. Mr. Butlin, in his paper on appendicitis already referred to, mentions the discovery of collections of pus in these recurrent cases.[1] It is because these quiet abscesses may remain after apparent recovery from an attack of appendicitis that I fear the practice which I at present adopt, of not operating if the attack seems passing off, is not altogether a safe one.

The other risks of appendicitis—hepatic or general pyæmia—are not sufficiently frequent to weigh very much with us in deciding on operation, though they should make us realise the need for early evacuation of pus. I have successfully drained a hepatic abscess after previous removal of the appendix for perforation and suppuration around.[2]

In a few of my cases, and in those of other surgeons, a sinus persisted for some time after the abscess was opened. No doubt this continued suppuration would be avoided if we removed the appendix in all cases at the time we evacuated the pus. But this means in most cases breaking down the protective adhesions amongst the coils around the appendix and the pus, on which the safety of the general peritoneal cavity from infection depends—a risk which, as I have written elsewhere,[3] most surgeons refuse to take. Now and again it may be possible to remove the appendix without destroying these adhesions, and in such cases we ought to remove it, but they are the exception.

If suppuration persists and a sinus remains, and fresh abscesses form, so that the patient cannot get about, and perhaps suffers from hectic fever, should we take some risk and remove

[1] *Loc. cit.*, 83. [2] *Bristol M.-Chir. J.*, 1897, xv. 323.
[3] *Ibid.*, 1899, xvii. 213.

the appendix, notwithstanding the neighbouring suppuration? I think we should. I did so in one case which ended in recovery, and I wished to do so in another, but the relations would not take the risk of operation, and the young man died. In both these cases the patients remained ill from the continued suppuration. The operation was I think the most difficult I ever performed, and I despaired at one time of getting the appendix away, but at last I succeeded. In this case the sinuses were all most carefully sponged dry before the peritoneal cavity was opened, and the region of operation was packed with gauze at the close.

Even in cases in which a small sinus persists, but does not prevent the patient getting about, it may become a question in time whether the appendix should not be removed. As a rule, however, in these cases the sinus tends to close. I am sure fæcal discharge, occurring a short time after operation, from the abscess sac, and due to spontaneous perforation of the softened bowel forming the wall, need never cause serious anxiety. I have seen it in several cases, and it always soon ceases. It usually comes on a few days after the abscess has been opened.

FIVE CASES OF PELVIC DISEASE TREATED BY LAPAROTOMY.[1]

BY

ERNEST W. HEY GROVES, M.B., B.Sc. (Lond.)

I VENTURE to bring forward these cases as each of them presents special features of interest as regards their diagnosis, treatment, or pathology.

CASE I.—**Dermoid Cyst of Ovary.**

K. E., aged 42 years, complained of pain and swelling of legs and painful micturition. She has always been strong and active, never had any serious illness. Catamenia normal. Married 14 years; four

[1] Read before the Bath and Bristol Branch of the British Medical Association, October 25th, 1899.

children; no miscarriages; youngest child four years old; confinements natural. February, 1898, after special exertion during menstruation she complained of a pain in the back and legs. She endured this for two months without advice, till in April, 1898, it became so severe she had to take to her couch. Since August, 1898, she has herself been conscious of a tender mass in the abdomen, and has had great pain and difficulty in micturition. November, 1898, I saw her for the first time, when her condition was as follows: Well nourished and rather stout. Chest normal, with the exception of a soft systolic murmur over the cardiac apex; abdomen rather prominent, resonant all over except in right flank, where a definite tender mass is felt about the size of a fœtal head. Per vaginam and bi-manually uterus in the position of ante-version, rather enlarged, sound passes 3¾ inches. The left ovary forms a tender mass in left fornix and in the posterior and right fornices occupying the cavity of the true pelvis is the tumour above referred to, which is however freely movable. The legs show a conspicuous wasting below the knee, the muscles are flabby and there is distinct œdema round both ankles. Pain occurs chiefly in front of both legs and is much worse when the patient stands or walks. Reflexes natural, electrical reaction unaltered. November 30, 1898: Operation. The abdomen was opened by a four-inch incision and a unilocular ovarian cyst of the right side removed without rupture, after ligaturing the pedicle. The left ovary was enlarged and cystic, and was removed. The incision was closed in two layers, peritoneum being closed by a separate silk suture. The wound healed by first intention, recovery was uninterrupted, and the patient returned home on December 19. The tumour removed was a unilocular dermoid ovarian cyst of oval shape, measuring 4½ inches by 3½ inches, containing thick sebaceous fluid and a hard cheesy mass from which several tufts of long hairs were growing. She still cannot walk more than half-a-mile at a stretch, but is able to take an active part in her household duties without pain.

The chief interest of this case lies in the prominence of the pressure symptoms. The muscular wasting was probably due to disuse. If this explanation of the case is correct it is remarkable that such symptoms are not more common, specially in cases of solid pelvic tumours.

CASE II.—**Simple Ovarian Cyst causing Menorrhagia.**

P. R., aged 35, unmarried, suffering from severe pelvic pain and menorrhagia. History: has always been anæmic, and has suffered from feeble digestion. About seven years ago her menstrual periods began to be profuse and painful. This condition has gradually increased, so that for the past three years she has been a constant invalid. Menstruation during this time has recurred about every twenty days, and has lasted six to eight days each time, the flow being excessive and accompanied by great pain, especially before and during the first two days of the period. She has lately had constant night sweats, and has felt "feverish." Vomiting and constipation have been frequent. When I saw her first she was thin and extremely anæmic, the lips and conjunctiva being blanched. There was a well-marked hæmic murmur over the pulmonary cardiac area, and she presented the usual symptoms of profound anæmia. On June 2nd, 1900, I examined her under an anæsthetic, and found the uterus anteverted

and enlarged, the sound passing 3½ inches. Behind it was a distinctly elastic swelling about the size of a duck's egg. Both the vaginal and rectal mucous membrane moved freely over this. July 1st, 1900. I opened the abdomen expecting to find inflammatory disease of the tubes, or possibly a fibroid tumour, but to my surprise the tumour was the most innocent looking, simple multilocular ovarian cyst of the right side. The left ovary was cystic, and some of the cysts were filled with blood. Both appendages were removed. The patient made an excellent recovery, and although her anæmic condition will make her an invalid for some time, yet she made rapid progress towards good health. A few drops of blood were lost per vaginam on the day following the operation. Besides this she has only once had any subsequent uterine hemorrhage, although slight pelvic sensations of menstruation have recurred at each period.

Both this and the last case are exceptional in the great prominence of pain as a symptom of small uncomplicated ovarian tumours. In both cases, too, there was distinct uterine enlargement. Doubtless the gravity of the symptoms depended on the uterine condition. I should not have removed the left ovary had not the patient's menorrhagia been so marked and the necessity for prompt cure so urgent.

CASE III.—**Uterine Fibroid.**

A. B., aged 44, complains of pains in the abdomen, vaginal bleeding, and general weakness. No previous illness. Married 15 years. No pregnancies. Menstruation regular every 28 days, lasting three days, with little pain, until December, 1898, when her regular period was accompanied with great bearing down pains and profuse hemorrhage. It lasted a week, and after a few days' cessation bleeding re-commenced, and has continued almost daily ever since, a period of two months, in spite of rest and drug treatment. If she remained any time in the erect posture violent flooding resulted. No discharge of matter, no loss of flesh. During the last two months she has had difficulty in defæcation, and greatly increased difficulty in micturition. I first saw her on February 21st, 1899, when her condition was as follows: Patient is fat, weighing 14½ stone. Sallow complexion, and is distinctly anæmic. Nothing abnormal in chest or abdomen. Per vaginam cervix is nulliparous, and is pushed far forwards and to the left. Occupying the posterior and right fornices is a firm elastic swelling, which does not fluctuate. The surface, over which vaginal mucous membrane moves freely, presents gentle irregularities. Sound passes 3½ inches in the concavity backwards and to the right, and gives the impression of not having reached the limit of the uterine cavity. Bi-manually the body of the uterus cannot be felt apart from the pelvic tumour; the latter, which is almost the size of a small child's head, completely fills the pelvic cavity. By firm pressure from the vagina it can be moved slightly, but this causes great pain. Profuse bleeding accompanies vaginal examination. Per rectum, the bowel is normal and its mucous membrane moves freely over the mass in Douglas's pouch. March 1st, 1899, operation. Peritoneal cavity opened by a four-inch incision. Tumour was firmly grasped and lifted out of the pelvis. It was then seen to be a fibroid of the body of the uterus, with a smaller mass growing from the left side, in the region of

the cervix. The ovarian arteries were tied and the tumour removed, after passing a temporary ligature round its base. The uterine arteries were separately ligatured on each side of the stump, and anterior and posterior flaps of peritoneum were sewn over the stump. The wound was closed without drainage, and an enema of brandy one ounce and hot water six ounces was given. The patient recovered from the shock with remarkable rapidity, having a pulse of 84 two hours after the operation. March 2nd. No sickness, taking soda and milk. Passed flatus freely by the rectum. Temp. 102°, pulse 124, both steadily rising. March 3rd, second day after operation. Bowels opened three times after turpentine and castor oil enema, taking food well. Temp. 101°, pulse 110. Tongue dry, covered with brown fur. March 7th. General conditions unchanged. No vomiting; bowels moved regularly. Pulse 110, regular, good volume. Abdomen soft. Wound, which healed by first intention, more moist and rather angry-looking. Temp. fluctuates daily between 98° and 103°. Profuse morning sweats. I thought the temperature pointed to some local pelvic suppuration, excluding peritonitis because of her good general condition. She was placed under an anæsthetic, and while moving her a few drops of bloody fluid oozed through the abdominal wound: the latter was therefore opened freely, and dark odourless blood-stained fluid mixed with flakes of lymph escaped. The intestines were matted with lymph, and the deep parts of the wound were ragged and sodden. The abdominal cavity was flushed with several gallons of one per cent. solution of lysol. No attempt was made to remove the lymph from the bowels. A long Keith's tube was placed in Douglas's pouch, and a rubber drain in the upper angle of the wound. The wound was sewn up with fishing gut sutures, a rubber tube being laid in its depth. March 8th. Pulse has not risen above 108 or temp. above 100°. Passes flatus freely. No sickness. Wound dressed every four hours. March 15th. Glass tube shortened, rubber tube removed. Progress good in every respect. Temp. has not risen to 100° since last note. March 18th. Glass tube removed. April 2nd. Whole wound is firmly healed, except at the lowest 1½ inches, where a granulating cavity is left. Patient returned home wearing an abdominal belt. A month later the entire wound was healed, leaving a lineal scar. Patient is now quite well. Can resume her ordinary housework, and walk several miles without fatigue.

Would it have been better in this case to remove the tumour by a vaginal hysterectomy? If we regard merely the size of the tumour such a course would certainly have been possible. You will see that the smaller fibroid mass in the cervical region would have greatly interfered with the ligature of the vessels on that side and have made the vaginal method very difficult and dangerous. But the history of the case after the operation, as bearing upon the details of procedure is the special point to which I wish to draw attention. In many respects the patient's condition was a very remarkable one. Her general condition was so good, she ate and slept well, she never vomited, she had no pain, her bowels were opened regularly,

and the pulse was of good volume and only 110. Her hectic temperature was the only danger signal; she was so stout and flabby that the distention was not noticeable, as it would doubtless have been in a thinner subject, and yet the condition could only be called by one name, that of septic peritonitis. But obviously there must be a wide difference between this and the typical case following on operation, when the temperature is often sub-normal, and when a rapid running pulse, vomiting and obstinate constipation, and intense pain are the symptoms which indicate a rapidly approaching fatal termination.

CASE IV.—**Ruptured Ovarian Cyst.**

M. W., aged 43, complains of a sudden attack of violent abdominal pain, accompanied by all the symptoms of collapse. Catamenia normal, regular, last three weeks ago. Married 24 years. Five children, last five years ago. Five years ago she had great pain in left groin, which developed gradually. This continued ten weeks, when it was suddenly relieved by a copious discharge of matter from the vagina. The last two years she has noted a swelling in the lower part of the abdomen, the size of which appeared to fluctuate from time to time. She had abdominal pain of an irregular character all this time. Since Christmas, 1898, swelling has steadily increased, until she was as large as when six months pregnant. March 31st, 1899. After a hard day's spring-cleaning, during which her body felt very heavy and aching, she went to bed about midnight. At 2.0 a.m. she was seized with violent pain in the right part of the lower abdomen. She began to retch. This continued until 11. The patient, who is stout and well-nourished, is very white, with a drawn and anxious expression. Pulse 100, regular, and of good volume. Patient can hardly speak for violent pain and vomiting. These symptoms were relieved by a quarter of a grain of morphia injected sub-cutaneously. The abdomen was much distended, chiefly on the right side, and moves slightly on respiration. The whole of the abdomen below the umbilicus dull to percussion; exquisite tenderness prevents satisfactory examination. The cervix was far forward, not fixed. Posterior fornix and whole of the pelvic floor were bulged down by a tense elastic swelling, which could be felt bi-manually to be continuous with the elastic mass on the right of the abdomen. Diagnosis: cystic tumour, either ruptured or with twisted pedicle. April 2nd, at 9.0 a.m., operation. In opening the peritoneal cavity by the usual incision a quantity of free fluid escaped. It was straw-coloured, and contained several flakes of mucoid lymph. The dark, flaccid ovarian cyst was then found on the right side, about the size of a melon. In handling it a ragged rupture was found on its upper border, which was clamped. The cyst was tapped with a large Wells trocar, and about a quart of greenish fluid drawn off. The cyst appeared to be wholly sub-peritoneal, but showed at one spot, the spot where rupture had taken place, some small secondary cysts. The right Fallopian tube curved over and was lost in its upper border. It was adherent to the sigmoid flexure of the colon by a broad vascular adhesion, which was evidently of old date. The lower part of the cyst descended into the depths of the pelvis. The cyst was removed by a laborious dissection. The abdominal wound was closed in three

layers, after a long glass drainage tube had been inserted. The recovery was uninterrupted, and the patient returned home on April 20th, and is now well and strong.

It seems evident that there had been an old tumour in this case, subjected to several inflammatory attacks. Possibly it began as a tubo-ovarian abscess which burst into the vagina five years prior to the operation, and, of course, it may simply be a parovarian cyst.

CASE V.—**Tubercular Disease of the Tubes and Right Ovary.**

A. T., 34 years. Complains of pain in the abdomen, and of feeling ill and feverish. Catamenia regular and normal. Married 11 years. No pregnancies. For the last nine years she has suffered from a bearing down pain, chiefly on the left side, but has never been confined to bed. Has worn a variety of pessaries and electric belts without benefit. Last November the pain became much worse, and has increased until now, March 31st. She is bed-ridden, the pain being so great that she cannot put her foot to the ground. On this date her condition was as follows: temperature 102.5°, pulse 124, abdomen rigid, the lower part being distended and immovable. A very tender mass could be felt in Douglas's pouch, and in the left posterior quarter of the pelvis. This was fixed to the uterus, and could not be differentiated from it. The condition evidently being one of acute pelvic peritonitis, she was admitted to my Home, and for ten days shewed some improvement; then the temperature began to show evening rises, and on May 13th I have the following note: During the past four weeks the patient has steadily lost ground. The temperature never remained normal during 24 hours, making an evening rise to 101 or 103. Profuse sweats occurred at night and in the early morning. Appetite has been very bad, and there is often slight vomiting. Emaciation has been marked. Locally the general fixation and tenderness have diminished, but otherwise the condition is unchanged. No soft spots can be felt, either by vagina or rectum. May 17th. Peritoneal cavity opened with some difficulty owing to the fact that the omentum was adherent to the abdominal wall and to the pelvic contents. It had to be tied and cut in places. Where the pelvic contents were exposed coils of small intestine were seen adherent to one another and to the uterus and its appendages; they were covered with gray miliary tubercle. The bladder was drawn up and adherent to the abdominal wall, and would have been cut into but for the guidance of a sound. The left Fallopian tube was dilated, forming a pyo-salpynx, about the size of a hen's egg. It was closely adherent to the sigmoid flexure of the colon, and to a coil of small intestine. After it had been removed the right appendages came into view. They formed a soft friable suppurating mass, closely adherent to the uterus in front and the rectum behind. The mass was enucleated with extreme difficulty, the right ureter being exposed and narrowly escaping ligature. The left ovary appeared to be healthy, and was therefore not removed. Abdomen was irrigated with salt solution and sewn up, an iodoform gauze drain being left. A quart of hot salt solution with one ounce of brandy was administered as an enema, whilst on the table. May 19th. Patient had recovered from shock well. The wound had been dressed every four hours. To-day the discharge had a fæcal odour. May 20th. Bowels opened after an enema. There was a copious discharge

of fluid, fæcal matter and gas from the wound; the fistula was therefore probably connected with the small intestine. May 26th. Condition has become worse. The whole of the wound has been opened up. Temperature rises to 101° in the evening; pulse always over 120. Feeling the condition was desperate, she was again put under an anæsthetic and the pelvic cavity well washed out. The perforation in the bowel was found with difficulty; it was in the coil of small bowel which had been adherent to the pyo-salpynx. The bowel was so densely fixed by adhesions that it could not be brought to the surface, and the tension put on stitches in order to bring the edges of the opening together, broke through the friable tissue. The attempt to mend the rent was abandoned, a rubber drain passed from Douglas's pouch into the vagina, and a gauze drain left in the abdominal wound. The patient died about twenty-four hours after, eleven days after the original operation.

The clinical features of this case were those of an acute septic disease, shewing no tendency to yield to expectant treatment. Practically the patient was confined to bed six weeks; nevertheless the hectic fever increased, and in every way she went from bad to worse, so that in spite of the great danger of the operation, and in face of the unfortunate result in this case, it seems to me that surgical treatment offered the only chance of life.

THE TECHNIQUE OF HALSTED'S OPERATION FOR CANCER OF THE BREAST.[1]

BY

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HALSTED'S account of this operation, as given by Butlin in the *British Medical Journal* of December 3rd, 1898, has always appeared to me capable of improvement in several details. Several of these I employed in the following case:

A married nullipara, aged 31, was sent to me for operation on August 14th last by Dr. Clay. She had a hard irregular mass, the size of a walnut, in the upper and outer segment of the left breast, movable on the chest-wall and not involving the skin. No glands palpable. Prior to removal I incised the tumour, which proved to be a scirrhus. I followed Halsted's description, with the following modifications:—The primary incision was made through skin only. No advantage is gained by cutting through the subcutaneous fat; and

[1] Read before the Plymouth Medical Society, October 27th, 1900.

if this fat is already involved by the growth, incising it may possibly disseminate cancer cells. The lesser pectoral instead of being divided at its centre was detached from the coracoid process, turned down and removed with the greater pectoral and breast. The clavicular portion of the greater pectoral was divided at its origin from the clavicle. The actual operation took three hours and three-quarters; the patient stood it well. Three pints of hot saline solution, with half ounce of brandy, were injected with a Higginson's syringe into the right median cephalic vein at the end of the operation. The patient was under chloroform four hours and a quarter, had no after-sickness, and felt hungry the same evening. The lower edges of the wound, in spite of very free undermining, could not be approximated, and two inches of the apex of the axillary flap sloughed. Except for this the patient did well.

Mr. Butlin, who is the chief advocate in England of this operation, has very kindly given me the results of his large experience. He says: "I have performed the operation probably more than a hundred times, and am very well satisfied with it. Sloughing of a small portion of the axillary flap is not uncommon. I believe the best way to guard against it is not to make the flap too large, but to cut the lower flap rather high up along the anterior pectoral line. I have not yet discovered whether the leaving of fat in the flaps prevents sloughing, but I do not think it does. I do not remove the lesser pectoral muscle, unless there is disease of glands almost adherent to it. I never bring the cut portions together, because there is absolutely no advantage in doing so, and there is great discomfort produced by bringing together cut muscle."

In future I shall adopt Mr. Butlin's suggestion in cutting the lower flap. I make it a rule to incise every breast tumour prior to removal, and, if it turns out to be malignant, stitch up the exploratory incision and discard all instruments already used. By so doing the risk of disseminating cancer is rendered infinitesimal.

I recently operated on a widow, aged 40, with a hard irregular mass, the size of a pigeon's egg, deep in the right breast, one inch above the nipple. I had no doubt but that it was malignant, and two other medical men agreed with me. On incision the mass was seen to consist of three adenomata grouped together. I have also seen within the last few days a young woman, with a history of mastitis and abscess seven years previously, who had an irregular thickening of the upper and outer portion of the right breast, which had recently become somewhat tender, but had if anything decreased in size. The unanimous diagnosis of those who saw it was inflammatory thickening left by the old mastitis. On incision the thickening proved to be a scirrhus.

The amount of blood lost by working from above downwards is, as pointed out by Halsted, very small, because the vessels are freely exposed and ligatured close to the main trunks once and for all, instead of the same vessels being repeatedly divided and clamped, which is what usually happens when clearing the axilla from below. I attach the greatest importance to having the patient on a hot-water bed during the operation, which is of necessity a severe one, and to intravenous injection of saline solution at the finish. At least five scalpels are required to do the operation comfortably. Halsted spends between three and four hours on the operation, which he finds very fatiguing. No operation has ever tired me so much, although sitting down most of the time.

Progress of the Medical Sciences.

MEDICINE.

Myasthenia Gravis. Drs. Harry Campbell and Edwin Bramwell in their paper on this disease[1] point out that although about sixty cases have been described, it has attracted but little attention in this country. The chief features are weakness, sometimes amounting to complete paralysis of the voluntary muscles; especially characteristic is the loss of power after voluntary action, to be regained after rest, except in severe cases, and the so-called "myasthenic reaction" of the affected muscles, by which is meant their rapid exhaustion uuder faradic stimulation. Muscles which are in constant action are most apt to be affected, such as the cervical and the eye-muscles. On account of the frequency of implication of the muscles innervated from the bulb, the disease has also been called "asthenic bulbar paralysis." Sensation is unaltered. Both sexes are about equally affected, but the disease comes on at an earlier age in women (average 24 years) than in men (average 35 years). Not unfrequently it has followed upon some acute affection, such as influenza, scarlet fever, typhoid fever, otitis media; occupation, syphilis, alcohol, neuropathic inheritance seem to play no special part in its causation. The mode of onset is usually gradual, and the muscles first affected are those innervated by the bulbar nuclei;

[1] *Brain*, 1900, xxiii. 277.

thus ptosis, diplopia, weakness of lips, indistinct speech, difficulty in mastication and in swallowing, and inability to hold the head upright, have each occurred as the first symptom, but in other cases the limbs have been earliest affected. In addition to the bulbar symptoms given above, complete external ophthalmoplegia, irregular nystagmoid movements, readily induced fatigue of the ocular muscles, weakness of those about the mouth, difficulty of swallowing—in several cases death has followed fits of choking,—weakness of the palate and of the tongue, feelings of fatigue, of aching and stiffness of the tongue, are common symptoms. The face is immobile, expressionless with drooping upper eyelids, and the authors compare the facial expression to that of the Landouzy-Déjèrine form of myopathy. Speech is characteristic. "The patient speaks naturally when he begins, but soon speech becomes nasal; words become more and more indistinct; the voice becomes weaker and weaker, and finally he has to stop for want of breath . . . These peculiarities are well demonstrated when the patient reads aloud."

The muscles of the trunk and limbs are also involved; from weakness of the neck-muscles there may be difficulty in supporting the head; from weakness of the back and abdominal muscles the patient may be unable to sit up long, or to raise himself into the sitting posture without using the hands—in some cases there is the greatest difficulty in turning in bed. Dyspnœa on slight exertion is present when the respiratory muscles are affected. Attacks of breathlessness occur from no apparent reason, and are dangerous to life. If the attack comes when he is walking, the patient falls to the ground cyanosed and breathless. Respiration is noisy, saliva accumulates in the mouth and can neither be swallowed nor expectorated. If lying in bed he sits up and saliva flows from his mouth. Strümpell, who first described them, believes that these attacks are due to sinking back of the tongue. In the limbs the muscles nearest the trunk are most affected—in the legs usually the ilio-psoas and quadriceps extensor; in two cases, however, weakness first appeared in the fingers. When the legs are very weak the gait is waddling, but in slight cases it may be natural, the patient merely having to rest for a minute or two from time to time. Sudden giving way of the legs is often present. When the patient writes, the writing is at first good and rapid, but it soon becomes slower and the letters badly formed, until the attempt has to be relinquished.

The muscles react in a peculiar way to the faradic current —they contract briskly at first to a tetanising current, but if the electrodes are kept in contact, very shortly the muscle ceases to respond; if the electrodes are applied again after a few minutes' rest the muscle again contracts, and again the contraction passes off. This is the **myasthenic reaction.** It is not present in all cases, it occurs only occasionally; it is met with in

different muscles at different times in the same case, and in the same muscle there is great variability in the ease with which it can be produced.

Muscular atrophy has been met with in a few cases, but it is "altogether exceptional." Fibrillary contraction was present in the tongue in two cases. The sphincters are never affected. The muscular sense, co-ordination, superficial reflexes are normal; sensory symptoms are absent, except for a sense of fatigue or stiffness in the affected muscles. The knee-jerks are generally more active than normal. Great variations occur in the intensity of the symptoms from time to time, and are characteristic of the disease. "The most striking feature is the speedy production of muscular exhaustion." Emotional excitement, exposure to cold, the catamenial periods in women, increase the symptoms.

In the majority of cases no visible lesion has been discovered after death. The pathology of the disease is obscure, but the authors suggest that it is due to the circulation in the blood of a toxin, probably of microbic origin, which acts selectively upon the lower motor neuron, so as to modify its functional activity.

As to prognosis, 23 out of 60 recorded cases died, the average duration of illness in the fatal cases being a year and a half; but some cases improve in a remarkable way, and have been known to remain free from symptoms for months, or even years, and it is probable that complete recovery sometimes occurs. Involvement of the respiratory muscles is a very grave symptom.

No specific treatment is known: an abundant and nutritious diet, and avoidance of cold and fatigue are important points; iron and arsenic are of use as general tonics; strychnine has been tried without benefit.

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Subacute Combined Degeneration of the Spinal Cord. This paper, by Drs. Risien Russell, F. E. Batten, and James Collier,[1] is based on the study of nine cases. The authors propose the above name provisionally, understanding by it a disease in which tracts of different function are concomitantly affected, and one which possesses a very definite clinical picture, not as a rule difficult of recognition, and a characteristic morbid anatomy. Obviously the term "combined degeneration" applies to other affections, and they prefix "subacute" to differentiate it. The cases first recorded were described by Lichtheim as examples of cord changes associated with anæmia. With regard to published cases the relation of anæmia to subacute combined degeneration of the spinal cord is threefold. These are (1) the cases of subacute combined degeneration of the cord dealt with here, in some of

[1] *Brain*, 1900, xxiii. 39.

which anæmia is a symptom; (2) cases of anæmia in which symptoms of nerve disorder arise and changes are found in the cord after death; and (3) cases of severe anæmia without clinical manifestations of nerve-lesions, but in which, nevertheless, definite morbid changes are found in the spinal cord after death. To take the first group, with which alone the authors deal in their paper, the disease runs its course in three stages, almost always to a fatal issue. They give the following summary:—

1. A stage of slight spastic paraplegia, with slight ataxy and marked subjective sensations in the lower limbs.

2. A stage of severe spastic paraplegia, with marked anæsthesia of legs and trunk.

3. Stage of complete flaccid paraplegia; absent knee-jerks; absolute anæsthesia; rapid wasting and loss of faradic excitability in the muscles of the paraplegic region; increase of superficial reflex excitability; absolute incontinence of both sphincters and œdema of the lower extremities and trunk.

They do not include anæmia as a typical symptom, because it was absent throughout in some of the most typical cases; when anæmia occurred, the changes in the blood, &c., were not those of pernicious anæmia. The disease appears in the 4th and 5th decades of life, and the patients were without exception strong and healthy before the symptoms showed themselves. Syphilis was present in four, alcoholic excess in three, and prolonged suppuration in three other cases. The onset in most was slow and insidious, but in the most acute cases rapid, ushered in by headache, vomiting, pyrexia, and malaise. The clinical picture of **Stage 1** was that of slight ataxic paraplegia. The first symptoms were subjective sensations of numbness, stiffness, and sometimes tingling in the lower extremities, followed either quickly or after some months by stiffness and clumsiness of the legs, and some dragging of the feet in walking. Objectively there were increase of deep reflexes in the legs, extensor response in the plantar reflex, and slight loss of sense of position in the legs. Similar symptoms and signs appear in the upper extremities, generally at a later date, and first noticed in writing. The cranial nerves and sphincters remain unaffected.

The **second stage** is ushered in abruptly by loss of power to stand or walk, and anæsthesia in the legs and lower part of the trunk. In five cases this change occurred in a single night. The most characteristic sign of this stage is the rapid development of anæsthesia, including loss of the sense of position, to which, and not to loss of motor power, the inability to stand or walk was due. Though motor power steadily declined, it was never completely lost until the final stage. The muscles were rigid, did not waste, and gave normal electrical reactions. Tabetic athetosis was usually present in the hands. At first the anæsthesia of the skin was peripheral in distribution, affecting

first the hands and feet, but as it spread upwards it became segmental. The highest point it reached in any case was the upper limit of 6th cervical root area. Severe constant dragging pain below the costal margin on one side was present in every case, a girdle pain was common, and lightning pains frequent. The mental faculties were unaffected; the sphincters escaped, or were only slightly affected. The cranial nerves (3rd and 7th) were involved in some cases. Reflex iridoplegia was never observed. The superficial and deep reflexes were increased, and jaw- and foot-clonus obtained. The lower lumbar and first sacral areas were always affected before the lower sacral and upper lumbar, and the lower cervical segments before the upper thoracic. There were no trophic changes. Irregular elevations of temperature occurred from time to time, irrespective of the presence of anæmia. The length of this stage was less than one-sixth of whole illness, three weeks to six months, average five weeks.

The **third stage** came on rapidly, accompanied by a change in the general condition, shown by pyrexia, lasting several days, malaise, drowsiness, anorexia, and general asthenia, and the "following succession of symptoms in the lower extremities:—Absolute flaccid motor paralysis; absolute anæsthesia; complete incontinence of the sphincters; loss of the deep reflexes; rapid wasting of the muscles, with loss of faradic excitability; and œdema of the legs and trunk." In the lower limbs and trunk wasting was general, but in the upper limbs it appeared later, and affected in order the intrinsic muscles of the hands, ulnar flexors, radial flexors, extensor of wrist and of elbow, supinators, and 5th cervical group. The anæsthesia became absolute and spread upwards, reaching as high as the 1st dorsal segment before death, in two cases to the 6th cervical segment. Pain disappeared with exception of the heavy pain beneath the costal margin. Signs of mental disturbance and deterioration appeared, with, in three cases, convulsions in the form of fine clonic spasms affecting the limbs. Severe bed-sores developed. The condition of the cranial nerves was unaltered. The duration of this stage was about six weeks, three weeks being the shortest period, and death was due either to sudden syncope or respiratory failure. The condition in this part of the illness was one "of mental and physical paralysis, profound anæmia, general emaciation, and sepsis." The chief pathological changes were found in the spinal cord, and consisted of two distinct processes: (1) a focal destructive lesion and (2) a system lesion. In (1), in the affected areas swelling, followed by fatty degeneration and absorption of the medullated nerve-sheaths, took place, the axis-cylinders being at first unaltered, then disappearing, a space being thus formed, simply surrounded by the connective tissue of the cord. In (2), the system degeneration, the long tracts exhibited a degeneration similar to that found after transverse lesions of the

cord. The stress of the disease fell upon the mid-dorsal region of the cord, where there was very marked destruction of the white matter all round the periphery, involving both the endogenous and exogenous fibres: the posterior columns may here be almost completely sclerosed. On tracing the process up the cord the degenerated areas tended to be limited to the posterior columns and crossed pyramidal tracts, and extended to the upper portion of the medulla. Tracing it downwards, the diffuse degeneration was usually limited in the lumbar region to the crossed pyramidal tracts, with some patches in the posterior columns. In the sacral region degeneration was almost entirely limited to the pyramidal tracts. The authors strongly incline to the view that a toxic agent is responsible for the changes in the spinal cord, and for the anæmia which sometimes accompanies them, this toxin producing a parenchymatous degeneration by its action on the nerve elements of the cord. It should have been said that in the first stage of the disease severe intercostal pain was followed by herpes in two cases, and by hemorrhage corresponding to the distribution of a nerve-root in a third. The paper is beautifully illustrated.

J. MICHELL CLARKE.

SURGERY.

Many surgeons have discarded the use of **carbolic acid** except for the immersion of instruments which are tarnished by solutions of mercury, but among the public at large, and even some surgeons it is not sufficiently widely known that this too popular antiseptic is liable to cause **gangrene** when applied to the extremities even in dilute solutions. Indeed the dilute solutions—water will practically only dissolve about five per cent.—are the more dangerous because they cause no pain, and their action is therefore more insidious.

My attention has recently been called to this matter by the necessity for amputating a finger, which after an injury at the extremity had been wrapped in a solution of carbolic acid for twenty-four hours and became gangrenous as far up as the first inter-phalangeal joint; and a paper on **carbolic gangrene**, by Dr. Harrington,[1] is a timely reminder that hundreds of fingers have been destroyed from this cause. He has collected a total of one hundred and thirty-two cases of gangrene from dilute solutions of carbolic acid.

It would appear from his observations that any solution of carbolic acid between 1 and 5 per cent. is dangerous, though it is probable that the strength of the solution has less to do with the unfortunate result than the duration of the application, and the thickness of the individual's epidermis. Indeed, he quotes Lévai as showing that strong carbolic acid is less dangerous,

[1] *Am. J. M. Sc.*, 1900, cxx. 1.

for it forms a scab which resists penetration of the acid into the deeper tissues, so that complete gangrene and destruction of an extremity are less likely to occur from the pure liquid acid than from dilute solutions of it.

According to this same observer, the death of the part is due to a direct chemical action on all the tissues. Carbolic acid has no specific quality for the production of the gangrene, for a like effect is produced by five per cent. solutions of hydrochloric, nitric, sulphuric, and acetic acids, and of caustic potash when applied to an extremity by a moistened compress for about twenty-four hours.

Tight bandaging undoubtedly increases the tendency to this process, but experiments have shown that the gangrene does not result primarily from this cause. The treatment of this condition varies according to the severity of the process. If it seems superficial, and the case is seen soon after the removal of the carbolic dressing, it might be beneficial to apply a dressing saturated with lime water, but in other cases it soon becomes evident that amputation is the only resource.

The best prophylactic consists in the avoidance of the use of carbolic acid for wounds, and it is the duty of medical men to show by their example that the public should not make use of this antiseptic.

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A subject of far-reaching importance is the value which should be attached to the **use of X-rays in surgery**. Patients not infrequently obtain skiagrams of their lesions, and are frequently surprised to find that, in the case of fractures, the apparent position of the fragments leaves much to be desired, and should an action for malpraxis be instituted, such a skiagram would be likely to appeal to the jury in a way that would be adverse to the medical attendant and the profession at large.

The discrepancy between the skiagram and the lesion as the result of treatment has been commented upon[1] from time to time, but it is well for us all to know exactly where we stand, and to this end I cannot do better than epitomise the conclusions on this subject which were unanimously adopted as expressing the views of the American Surgical Association:[2] views which those who are familiar with X-ray work will fully endorse:—1. The routine employment of the X-ray in cases of fracture is not at present of sufficient definite advantage to justify the teaching that it should be used in every case. If the surgeon is in doubt as to his diagnosis he should make use of this, as of every other available means to add to his knowledge of the case, but even then he should not forget the grave possibilities of misinterpretation. 2. In the regions of the base of the skull, the spine, the

[1] *Brit. M. J.*, 1900, i. 945. *Med. News*, 1900, lxxvi. 192. *Practitioner*, 1899, lxii. 535.

[2] *Am. J. M. Sc.*, 1900, cxx. 35.

pelvis, and the hips, the X-ray results have not as yet been thoroughly satisfactory, although good skiagrams have been made of lesions in the last three localities. 3. As to questions of deformity, skiagrams alone, without expert surgical interpretation, are generally useless and frequently misleading. The appearance of deformity may be produced in any normal bone, and existing deformity may be grossly exaggerated. 4. It is not possible to distinguish after recent fractures between cases in which perfectly satisfactory callus has formed, and cases which will go on to non-union. Neither can fibrous union be distinguished from union by callus in which lime salts have not yet been deposited. 5. The evidence as to X-ray burns seems to show that in the majority of cases they are easily and certainly preventable. It seems not unlikely when the strange susceptibilities, due to idiosyncracy, are remembered, that in a small number of cases it may make a given individual especially liable to this form of injury. 6. In the recognition of foreign bodies the skiagram is of the very greatest value; in their localisation it has occasionally failed. Mistakes in localisation are becoming less frequent by the adoption of accurate mathematical methods, but the surgeon who bases an important operation on the localisation of a foreign body buried in the tissues, should remember the possibility of error that still exists.

* * * *

Though the question of the influence of **oöphorectomy in cancer of the breast** cannot yet be finally decided, the subject must arrest our attention, when we review the results obtained by various operators. Mr. Stanley Boyd[1] and Dr. Ernest Herman[2] contributed two helpful papers on this matter at the recent meeting of the British Medical Association at Ipswich. Mr. Boyd has collected 54 cases, and divides them into two groups: 1. Those in which oöphorectomy seemed to produce a clear and considerable result. 2. Those in which oöphorectomy had little or no effect, or in which the effect was doubtful. Thus classified, he maintains that of the 54 cases, 19 (35 per cent.) were more or less markedly benefited, 34 were not benefited, or were only doubtfully benefited, and one died of exhaustion.

He considers that such a success cannot be due to chance, to laparotomy (as in the case of supposed malignant disease of the abdomen cured by exploratory laparotomy), or to the administration of thyroid extract.

Dr. Herman, however, considers that the administration of thyroid extract is important, and he points out that of 17 cases quoted by Mr. Boyd as being favourably influenced by oöphorectomy, 12 had been given thyroid extract; whereas, there were 21 cases in which no benefit had followed and only 5 of these had had thyroid.

Although, wasting of the cancer follows oöphorectomy in

[1] *Brit. M. J.*, 1900, ii. 1161. [2] *Ibid.*, 1167.

one case out of every three, it appears from Mr. Boyd's cases that cancer growths generally reappear or begin again to increase in six to twelve months.

This, however, means a gain of health and a prolonged life for a year or more to the patient. Six per cent. of the cases gained immunity for two years and over.

It appears that cancers other than mammary are not benefited by oöphorectomy, and that all mammary cases are not affected thereby. Mr. Boyd's theory is that certain ovaries, probably by pathological variation in their internal secretions, favour the growth of cancer by action, either upon the growth or upon the tissues; the removal of such ovaries alone will be of benefit though at present there is no clue to their recognition.

Returning to the two groups, the following points of difference are noted between the cases which improved and those which did not: 1. *Age.* The average age of group 1 is considerably higher than group 2; it has often been supposed that the cases in which oöphorectomy would be most likely to do good would be those in young women; this would seem not to be the case. 2. *Type of Case.* The cases in group 1 are of a more chronic type than those in group 2. 3. *Effect of menopause.* That with one exception all the patients who had passed the menopause are included among the failures. 4. *Effect of amount of disease.* The cases in group 2 are rather worse than those in group 1. The quantity of superficial disease does not, however, make the difference between failure and success; but whenever it has been evident that viscera or bones have been affected, no improvement in them has taken place. 5. *Time of appearance and course of improvement.* Pain often ceases at once, and may be permanently relieved. Vascularity and general fulness are diminishing and nodules are shrinking within a week. Much of the growth may have gone within two to four weeks. 6. *Effects of oöphorectomy.* Amenorrhœa and sterility, atrophy of the uterus and more slowly of the breasts are constant. Unpleasant effects seem to be rare. The following conclusions would therefore seem justifiable: Oöphorectomy should be offered in cases other than the very acute, in women over forty, with no visceral or bony lesions, in fair condition and before the menopause. In extensive primary cases and recurrences it seems advisable to remove what is possible of the disease; but healing should be attained, lest the oöphorectomy fail in its object and malignant ulceration be started.

The operation is not a severe one and in cases where the disease is so advanced that a speedy local recurrence seems likely, oöphorectomy might be performed at the same time that the local mischief is removed.

* * * *

In most departments of life there is a tendency to follow each other without stopping to question the correctness of the views of our "leaders."

An honest scepticism should always set us thinking, and the revolutionary ideas on the **treatment of inguinal hernia** in childhood displayed by Mr. Russell[1] are worth consideration.

The popular view on this subject is that hernia in children may almost always be cured by a truss; and that operation is, therefore, rarely called for.

Mr. Russell entirely disagrees with this for he believes that all inguinal herniæ are accompanied by a congenital sac which no truss pressure can cure; and he deduces the following conclusions from his experience of operation in children. 1. Inguinal hernia in young subjects is caused by the presence of a congenital sac and there is no other cause. 2. The sac is in the vast majority of cases an unobliterated portion of the processus vaginalis. 3. Acquired oblique inguinal hernia in the young has no existence in fact. 4. Seeing that oblique inguinal hernia cannot occur in the absence of a congenital sac, there can be no recurrence after the sac has been efficiently removed.

The reason that he gives for stating that an acquired sac cannot occur is the existence of an automatic, self-regulating sphincter mechanism in the inguinal canal which he described in a former paper[2] as being formed by a rigid tendinous half, and an actively contracting muscular half. "Now when curved muscular fibres contract they straighten, and the effect of the straightening of these curved fibres is to cause them to descend towards a position parallel to the floor of the canal and so close the opening. In other words, the action of the curved fibres is sphincteric, and the original canal is a half sphincter and is closed, so far as the structures passing through it permit, by this sphincter action." The author is therefore of opinion that all cases of oblique hernia occurring at any time during the course of life take place in subjects who are the possessors of a congenital sac, and that subjects who have never possessed a congenital sac, or in whom the sac has been efficiently removed, can never become the subjects of oblique hernia.

In answer to the objection that herniæ frequently occur after operation, he maintains that such so-called "recurrences" are not true recurrences at all, but traumatic hernia due to misguided methods of operating. This is certainly a "facer" even for those who think that operations after the Bassini method or some modification of it are to be regarded as an over-doing of surgery except in the minority of cases.

JAMES SWAIN.

[1] *Lancet*, 1900, ii. 1128. [2] *Ibid.*, 1899, ii. 1355.

LARYNGOLOGY AND RHINOLOGY.

Several important matters were discussed at the meetings of the American Laryngological Association, May, 1900.

Dr. Blois[1] opened a discussion on the **treatment of fractures of the nose**, and advocated a bit of stiff rubber tubing, inserted by means of a well-greased pair of scissors, as an internal splint, after reduction of the dislocation. Plaster of Paris bandage makes a good external splint. Dr. Casselberry moulds the plaster of Paris over the nose, carries it back to the line of the ears, making it thinner posteriorly, and secures it by tapes passing above and below the ears behind the head. Such splints must be worn ten days or more. Internally, nosophen gauze applied under cocaine acts well. If the fracture is low down in the nose, an ordinary vulcanized tube answers well. Other speakers advocated the use of the Bernays' sponge as an internal splint, a thin metal splint or an adhesive plaster externally.

* * * *

Dr. Emil Mayer described a case of **recurring membranous faucitis**, due to the bacillus of Friedlander. This bacillus has been found in local manifestations in stomatitis, ozœna, rhinoscleroma, acute suppurative rhinitis; in pus in the antrum of Highmore; in membranous bronchitis and other lung diseases; in pericarditis, pyelo-nephritis, meningitis, parotiditis, otitis, and generally in pyæmia and septicæmia.

The patient had had for eighteen months a membrane formed either over the entire pharynx and soft palate, or over the latter alone, and had never been free from it for more than fourteen consecutive days during this time. It formed and exfoliated on the third day, when the throat appeared normal. If it was prematurely removed, a raw surface, bleeding on manipulation, was present. The pieces that exfoliated were pearly white, with pinhole perforations. Constitutional manifestations were very slight. Examination of the membrane showed it to consist of squamous epithelium arranged in layers three to six cells in thickness. On the surface of the membrane, between the cells as well as within them, are very numerous short bacilli. There is no fibrin present, nor can leucocytes, blood-vessels, or connective tissue be detected.

* * * *

Dr. J. N. Mackenzie opened a discussion on the early **diagnosis and treatment of laryngeal cancer**. There are three methods of arriving at a diagnosis:—

1. The naked-eye appearances, combined with the clinical history.
2. Thyrotomy.
3. Microscopic examination of a removed fragment.

[1] *J. Laryngol.*, 1900, xv. 298.

The first and second frequently go together, and a more extensive division of the cervical tissues than a mere laryngofissure is allowable in cases of reasonable doubt, or where one cannot otherwise define the exact territory occupied by the disease.

As regards the removal of a piece for microscopic examination, it is a dangerous procedure, as it renders the patient liable to auto-infection or of metastasis. If reasonable doubt exists, it should not be done. Early and thorough removal is necessary, and as regards operation on one half of the larynx, the other half that is left is not of much value for voice production. Intra-laryngeal operations in extensive disease are to be condemned. Simple thyrotomy with curettage is a reversion to the status of fifty years ago.

Delavan remarked that of 163 cases occurring in the practice of eight Continental surgeons who had had at least ten personal cases on which radical operations were performed, only 6 per cent. of recoveries took place.

Solis-Cohen called attention to the following points in the performance of laryngectomy:—

1. Operate with the head in a semi-inverted position, to prevent entry of septic matter into the lungs.
2. Preliminary tracheotomy should be done, otherwise we are troubled by the descent of the trachea.
3. If possible, retain the epiglottis.
4. Shut off all communication of the mouth with the air passages. In attaching the upper part of the trachea to the skin, the tube should be slit longitudinally for a short distance.
5. All dressings should be avoided. Feed by enema, and use no tube by the mouth. Allow no packing, as it causes constant desire to swallow.
6. Remove the larynx from below upward, and elevate the foot of the bed after operation.

* * * *

Secondary hemorrhage after the use of suprarenal extract.

Hopkins finds that suprarenal extract is apt to cause hemorrhage, and considers that we should always use intranasal packing after its use in operations on the nose.

Swain had seen more hemorrhage when the extract and cocaine are used in combination than when either of them is used alone.

Farlow had not seen hemorrhage occur after its use, but had had some remarkable cures of coryza from it.

Grünbaum[1] calls attention to the fact that suprarenal gland extract does not cause coagulation, and so does not seal vessels with clots. From this it follows that unless the application is repeated we may get fresh bleeding. Hemorrhage from a small artery is more likely to be affected by it than capillary oozing from

[1] *Brit. M. J.*, 1900, ii. 1307.

a hyperæmic mucous membrane, since it acts by causing contraction of the plain muscle fibres of blood-vessels.

* * * *

Lermoyez has written a paper on the **treatment of nasal hydrorrhœa** with atropine and strychnine.[1]

He believes that the fluid that issues from the nose is a true secretion and not a mere exosmosis, and is due to abnormal excitation of the secretory filaments of the superior maxillary nerve. The obstructive phenomena are considered to be due to true vaso-dilator activity rather than to paralysis of vaso-constrictors. The local lesions in the nose may be, and often are, secondary and not causal. The hyperæsthetic spots are situated at points especially liable to be irritated by inspired particles and by the pressure resulting from hyperæmic swelling.

Leaving aside all local treatment by cautery, snare or knife, we are recommended to attack the hyper-secretion with atropine and the vaso-dilatation with strychnine. Moderate doses taken once a day for ten days and twice daily for the next ten days, with a fortnight's rest after the twentieth day, usually suffice to really cure this troublesome condition.

Only occasionally is it necessary to administer the drugs three times a day for ten days after the twentieth day.

BARCLAY J. BARON.

OTOLOGY.

One of the principal topics of discussion at the recent International Otological Congress, held in London, was the question of the advisability of **opening the mastoid in chronic suppurative otitis media.**

Professor Politzer, of Vienna, who is undoubtedly the highest authority in all matters relating to ear diseases, opened the discussion.

He laid down nine indications for performing the radical operation:—1. Well-marked caries of the walls of the tympanic cavity. 2. Extensive proliferation of polypi and granulations in the tympanic cavity, growing from the antrum and attic, and recurring even after repeated removal. 3. Carious fistulæ, situated either in the posterior superior wall of the external auditory canal or on the outer surface of the mastoid process. 4. The occurrence of cholesteatoma. 5. A hyperostotic stricture, or complete atresia of the external auditory canal, leading to retention of pus and formation of cheese-like greasy deposits. 6. Facial paresis or paralysis. 7. A painful swelling over the mastoid process, or the formation of an abscess. 8. An obstinate, long-continued, septic, bad-smelling discharge, which has resisted all forms of treatment, especially when the perfora-

[1] *Ann. d. Mal. de l'Oreille, du Larynx* [etc.], Juillet, 1899; abstract in *J. Laryngol.*, 1900, xv. 442.

tion of the drum is situated in the posterior superior quadrant, and the rest of the drum is adherent to the inner wall of the tympanic cavity. 9. Symptoms of tuberculosis appearing in cases of chronic suppuration.

Among the objective symptoms which indicate the necessity for the radical operation should be mentioned fever with a high temperature, preceded by rigor, or fever marked by sudden rising or falling of the temperature, which usually indicates septicæmia. Among subjective symptoms, Professor Politzer considered that persistent or frequently recurring pains in the ear and in the mastoid region, or persistent and fixed pain in the parietal or occipital region, which is increased by percussion, should indicate the necessity of the radical operation.

There would always be cases in which some surgeons, on account of the impossibility of predicting exactly the pathological changes in the temporal bone, will hold the opinion that it is not advisable to await the appearance of well-marked symptoms, and will decide to operate at once; while other surgeons will advocate more conservative methods, from the fact that in numerous cases they have succeeded in healing the discharge without operative interference.

Although he was a strong advocate for the radical operation in suitable cases, he could not agree with those surgeons who not only perform it when the before-mentioned indications are present, but also often for the *mere purpose of curing the discharge*. He thought that in these cases it is not justifiable to have recourse to an operation which, although not necessarily dangerous in the hands of a skilled operator, is still a serious one.

Professor Macewen, of Glasgow, considered that when a pyogenic lesion exists in the middle ear, or its adnexa, which is either not accessible, or which cannot be effectually eradicated through the external ear, the mastoid antrum and cells ought to be opened. He advised the operation even in cases of slight though persistent otorrhœa, which could not be entirely cured by simple means. He considered that in these cases there was always danger of the pyogenic process proceeding inwards, giving rise to symptoms often misunderstood or attributed to other causes, but which might prove fatal or by undermining the constitution might pave the way for the advent of other lesions. After the operation, these patients greatly improved in health, all their old symptoms disappearing along with the cessation of the otorrhœa. Dr. Macewen's personal experiences led him to state that he regarded the operation of opening the mastoid as the safest and most efficient way of eradicating otherwise persistent purulent otitis media. He regarded the operation of opening the mastoid as substantially contributing to the well-being of human comfort and happiness, and as materially lengthening life.

Professor Guye, of Amsterdam, said that one may often be

proud of having cured a patient of chronic otorrhœa, without, as well as by operation. He did not find in chronic otorrhœa, without any dangerous symptoms, sufficient indication for the mastoid operation.

Professor Lucae, of Berlin, said that although he was of opinion that the opening of the mastoid is a very important help in the treatment of chronic otorrhœa, yet one may also succeed in many cases without operating. He thought that instead of being proud of saying "I have operated on so many patients," one should be prouder of saying "I have cured so patients without operating."

Dr. McBride, of Edinburgh, desired to associate himself with the more conservative views of Professors Politzer, Guye, and Lucae. He submitted that even if Professor Macewen's proposals were right, they were impracticable because of the frequency of chronic middle ear suppuration. He however, except in special cases, objected to so-called prophylactic operations.

Mr. Cresswell Baber, of Brighton, thought that we were most of us agreed that in chronic suppuration of the middle ear, accompanied by mastoid symptoms, the bone should be opened. The interesting point to consider was whether the mastoid should be opened in cases of chronic suppurative otitis media without any symptoms, except the discharge. In those cases he thought, as a general rule, that first of all every means of arresting the discharge through the meatus (such as careful cleansing, curetting, removal of ossicles, &c.) should be tried, and if the purulent discharge from the tympanum still continued, the risks of pyogenic infection from this focus should be put before the patient or his friends, and the chances of an operation on the mastoid placing him in a safer position explained, though, of course, no certainty of a cure could be promised until the parts had been exposed by operation and the full extent of the disease ascertained.

Many other speakers joined in this discussion, a full report of which will be found in the *Transactions*, edited by Mr. Cresswell Baber, the hon. secretary-general of the congress. The general feeling of the congress seemed to be opposed to the universal operating advised by Dr. Macewen, and to be more in accordance with the conservative views of Professor Politzer. It would be a great pity if it should be widely believed by operating surgeons that it is a good thing to open the mastoid for a chronic purulent discharge from the ear, without any other symptoms, and the recent debate will do much to place this question on a right footing.

W. H. HARSANT.

Reviews of Books.

Recollections of my Life. By Surgeon-General Sir JOSEPH FAYRER, Bart., K.C.S.I., LL.D., M.D., F.R.S., Q.H.P., etc. Pp. xii., 508. Edinburgh and London: William Blackwood and Sons. 1900.

There is a peculiar charm in reminiscences written by distinguished men, of large and varied experiences, who have always kept in touch with those in prominent positions, and have had social intercourse with people from all parts of the world and of various nationalities. A powerful influence for life is produced by early association with the sea and visits to distant countries, whereby fresh charms of scenery, and of animal and vegetable life, differences of dress, habits, and manners of the inhabitants, keep the mind in an incessant state of observation.

No men can have more, and few men as many, opportunities in a deep and intimate manner of gaining such accumulations of knowledge as medical men, while their early scientific training enables many of them to fill with skill and distinction positions of high importance quite outside the domain of their profession, even while practising it with great proficiency, and to write articles, books, and discourses of extreme value, increasing our knowledge at home of the peculiar maladies, climates, natural history, zoology, geology, and fauna of all parts of the world. It is deserving of special attention to notice what providential deliverances from imminent danger have frequently been granted to those who are destined in this manner to be blessings to their nation and fellow-creatures. All these points come into prominence in the perusal of this most remarkable, interesting, and highly instructive work which is now before us; giving to elder men greater knowledge than they possessed before of events in our history, such as the Indian Mutiny, the particulars of which thrilled them with horror, and the happy termination with profound gratitude, at the time of their occurrence.

Early life is well depicted, when sport, adventures and escapes from danger make strong impressions on the mind. An experience of medical interest is well described, where, when swimming in the sea off Bermuda, shortly after having seen a poor boy bitten in half at his waist and the lower half of his body swallowed by a shark, the author felt one of his legs tightly grasped, and, though he nearly sank with horror, he bravely struck out and reached a boat and was lifted into her, and then found that the long string of his drawers had wound round his leg and grasped it! The Indian Mutiny, with descriptions of the country, native princes, people and events

which culminated in that awful episode of our history in that vast Empire, occupies a considerable space in the Recollections. It needs a brave man to recall, live again in, and describe those times of dread suspense, terror and treachery, and all the brutal massacres: but in contrast he is able to depict the calm waiting bravery of refined and delicate ladies, tender children, and noble men, and the electrifying ecstasy of the relief of Lucknow and Cawnpore, and the pure devotion of many faithful native servants. On all this the book must speak for itself. How touching are the words recorded of Sir Henry Lawrence, who, when he knew that his earth-life was near its close, requested that the only epitaph upon his tomb should be, "Here lies Henry Lawrence, who tried to do his duty." Of him and several other noble men excellent likenesses are inserted, including one of Sir Henry Durand, who began his grand and useful career by blowing up the gates of Ghuznee in the face of crowds of the enemy firing from the walls of the city: whose beautiful wife, accompanied by her faithful ayah, hiding by day and creeping by night, eventually reached a place of safety but died from the exhaustion induced by what she had passed through; and who has left two honoured sons, both knighted for distinguished service. The well-illustrated records of the Prince of Wales' visit to India, Sir Joseph's return to London, the honours, grandly earned, which were heaped upon him by his appreciative country, the International Medical Congress of 1881, the positions which he has been called upon to occupy, and other matters command attention in the careful perusal of a work of most profound interest and value; ending in the comforting knowledge that the talented author is still among us and has favoured us with an admirably finished likeness of himself,—a picture of power and modesty, which seems to say: "Not unto us, O Lord, not unto us, but unto Thy Name give the glory."

Kirkes' Hand-Book of Physiology. By W. D. HALLIBURTON, M.D., F.R.S. Sixteenth Edition. Pp. xix., 872. London: John Murray. 1900.

It is always with pleasure that we read this book, perhaps from old associations, as it was our guide and friend when we first began to study physiology. It still keeps to the simple language, terseness of style, and homely analogies, which so well introduce the beginner to the scientific technicalities of language with which he must make himself familiar later on.

In this editon advantage has been taken of the opportunity to add matter here and there in order to bring the work fully up to date. There might perhaps be some changes effected in the diagrams of histology, such as a better one of hyaline cartilage, in which a *fibrous* matrix is clearly discernible, also in that supposed to represent Wharton's jelly, which, however, is very

poorly represented in all the atlases which we have consulted; but these are merely quibbles, for the illustrations taken as a whole are most excellent, the diagrams being especially clear and thorough, as evidenced by the use of one (slightly modified) by Prof. Mott in his Croonian lectures.

We can cordially recommend the book to all students.

A Text-Book of Medical Treatment: Diseases and Symptoms. By NESTOR TIRARD, M.D. Pp. x., 692. London: J. & A. Churchill. 1900.

This book is designed to supply "the links between Physiology and Pathology, between Pharmacology and Therapeutics," which are not always readily apparent; the author hopes "that to senior students this volume may form a useful supplement to their text-books on Medicine, and that, as a work of reference, practitioners may find in it much that is helpful and suggestive." It is to the latter class we should look more especially: the average student finds details of treatment in the ordinary text-books of medicine sufficient for his present needs, but later, after he has fathomed these more or less deeply, he is glad to get assistance from such books as this when called upon to do everything possible in a critical and intractable case. At whatever part of the book it may be opened we find a full and emphatic account of what can be done for the disease in question, and the account is not largely encumbered with various suggestions which are obviously useless and often opposed to common sense. Every page is instructive, and the suggestions will commend themselves to the reader as having been founded on experience and good judgment. It is difficult to criticise where all is good, and there must be many points where opinions may differ: for instance, we read (page 37) that "patients with chlorosis generally require to be encouraged to take outdoor exercise," and no mention is made of the necessity for absolute rest in bed of many patients who cannot make good blood so long as they continue to get about more or less actively. Again (page 50), we are told that in acute coryza, quinine, prescribed in doses of one or two grains three times a day, "will lower the temperature." How often has this fallacy been repeated! We are expressly told that the drug "must be used with some moderation, since, if given in overdoses, it may produce headache and buzzing in the ears." Surely it has long ago and repeatedly been proved that doses which will not produce these symptoms will also fail to have any antipyretic effect; in fact, that quinine as an antipyretic has long ago been replaced by drugs which are more efficient as antipyretics and which bring no corresponding discomforts with them. Again (page 44), we should prefer a stronger statement as to the question of operation in exophthalmic goitre, for we are told that "operative measures . . . have occasionally

been recommended, but they have not hitherto been generally adopted." This scarcely summarises the results of present experience, which tends to show that however satisfactory have been the results of operation in ordinary goitre, the risks of operation in exophthalmic goitre are too great to be undertaken.

We venture to predict a popularity for the book which will render subsequent editions necessary at no long intervals.

The Principles of Treatment. By J. MITCHELL BRUCE, M.D. Pp. xv., 614. Edinburgh: Young J. Pentland. 1899.

If somewhat tardily we notice Dr. Mitchell Bruce's book, it is in part because the unusually solid character of its contents has made the perusal of the entire book not speedily nor lightly accomplished. It is superfluous to say that Dr. Mitchell Bruce has written a good book on a subject of which he is an acknowledged master; but we confess that it seems to us that in some directions compression might have been beneficially exercised, and on the other hand some topics are omitted which should have been included. We presume also, from the absence in most sections of any very recent references, the book has been a considerable time in preparation. The first nine chapters are devoted to the consideration of the general principles of treatment, and contain a great deal that is sound, judicious and instructive—especially chapter vi.—but contain also a good deal of what is hardly above platitude. While, therefore, the book is a store of ripe experience, it does not call for any very minute analysis. We note, however, one or two points that struck us during the perusal. Indigestion, here synonymous with gastric catarrh, is treated at some length and fairly well, but not handled in the light of modern research into the chemistry of stomach function. In the chapter on cirrhosis of the liver no allusion is made to Rutherford Morison's operation in cases which Dr. Bruce admits to be otherwise hopeless. General peritonitis being treated of, there was no necessity for a separate consideration of appendicitis, which when once diagnosed should be handed over to the surgeon: a disease much more pertinent to the physician, viz., diphtheria, is omitted altogether. This we think is a mistake, considering how anxious a care every case is to the medical attendant and how difficult the treatment often is. No disease of the spinal cord is treated. The section on typhoid fever seems to have been written comparatively recently, containing some recent references. It gives the line of treatment at present accepted by most physicians. But it is the author's views on the treatment of phthisis which struck us more than anything else in the book as being distinctly belated. We will quote a few sentences to show what we mean. The phthisical subject "is recommended to leave a cold and damp

country . . . because at home he would be driven into confined quarters." "Morphine . . . would make the patient sleep into the forenoon inhaling the polluted atmosphere of his bedroom." "We forbid unwise exposure to cold, damp, wind or dust, out-of-doors." "The subject of phthisis must retire to bed early . . . to escape the impure atmosphere of the sitting-room occupied by the family circle, the products of expiration and transpiration and of blazing gas, the odour of the last meal, and the tobacco smoke." "When phthisis has entered on its second stage it is already too late to propose movement from home . . . the best place for a patient with softening tubercle is home." "The times and manner of taking food must be revised. Excessive frequency and excessive amount must be temporarily avoided." There is no need to multiply these extracts; they indicate views now gone by, one would have thought. We find no allusion to the open-air method, either absolute or modified, as now carried out either in this country or abroad.

If we presume thus to cavil somewhat at this book, it is not that we do not recognise its considerable merit, but we cannot believe that it fairly represents Dr. Mitchell Bruce and his present practice.

Ulcer of the Stomach and Duodenum. By SAMUEL FENWICK, M.D., and W. SOLTAU FENWICK, M.D. Pp. xiv., 392. London: J. & A. Churchill. 1900.

This is an exhaustive book, and, like all books which contain records of cases, ought to be of lasting value. The difficult question of the ætiology of gastric ulcer is fully discussed. The authors consider that acute primary ulcer often commences as a hemorrhage, and that chronic ulcer, although it may be a sequel of an acute ulcer, is probably frequently due to impaired nutrition of the mucous membrane of the stomach consequent upon arterial degeneration. It has always seemed to us that a hemorrhage is the most likely cause of a gastric ulcer, when it occurs in an anæmic girl with cardiac failure consequent upon the anæmia. It seems to us, however, that micro-organisms probably play an important part in preventing healing of the damaged mucous membrane. That micro-organisms of infective character are commonly present in the base of an ulcer is obvious, from the frequency with which the wall of the stomach opposite to an ulcer becomes attacked, and a second ulcer produced. The situation of an acute ulcer near the lesser curvature of the stomach, where it is not continually bathed with bactericidal gastric juice, also suggests that micro-organisms are an important factor in maintaining ulceration.

This volume enters fully into the symptomatology and treatment of gastric ulcer. When speaking of the symptoms, it is mentioned that pain after food occurs in 21 per cent. of

acute primary gastric ulcer, but the interesting statement is made that "only about seven per cent. of the cases of this dangerous disease complain of that severe form of pain which is supposed to be characteristic of gastric ulcer." The diagnosis of chronic ulcer is discussed under the headings of gastralgic, catarrhal or vomiting, dyspeptic, hemorrhagic and cachectic forms.

The numerous complications of gastric ulcer, of which perhaps the most important is subphrenic abscess, are also fully dealt with.

Occasional Lectures on the Practice of Medicine. By W. B. CHEADLE, M.D. Pp. xiv., 324. London: Smith, Elder, & Co. 1900.

In addition to Dr. Cheadle's well-known Harveian lectures on the Rheumatism of Childhood, this work contains chapters devoted to the following subjects: The use and abuse of tonics, the clinical uses of opium, the diagnosis and treatment of certain minor disorders of childhood, constipation, rickets, and some practical points on the treatment of diseases of the lungs and air passages. To the practitioner these lectures will be invaluable, for they treat of conditions which are seldom seen in the course of his hospital training, but which are of every-day occurrence in private practice. The advice given with regard to treatment is always practical and concise, and we may instance more especially the saline treatment of constipation, the administration of dilute iron solutions, and the use of opium in infantile bowel disorders. With sound useful advice Dr. Cheadle combines a charm of literary style which is too seldom met with in medical works at the present day.

Renal Cases: a Series of Selected Clinical Reports and Surgical Studies. By DAVID NEWMAN, M.D. Pp. xii., 151. Glasgow: James MacLehose & Sons. 1899.

No one could carefully read these records, and the comments of the author upon them, without gaining considerable knowledge, and that of a kind likely to prove specially useful in the diagnosis of obscure cases of renal disorder. It is shown that renal pain and colic, and intermittent hæmaturia, albuminuria, and hydronephrosis, may be cured by nephrorraphy. The pathology and symptomatology of cystic disease of the kidney is more fully discussed than in ordinary text-books of surgery, and even more fully than in many special works. The differential diagnosis of the various causes of hæmaturia is also fully discussed. The special lessons to be learnt from each case recorded are clearly expressed. Many details are given in these records which, though they yielded valuable help in diagnosis, would in practice

have easily escaped the attention of any but the most careful observers. The cases seem to well support the conclusions and opinions of the author.

Paralytic Deformities of the Lower Extremities. By E. NOBLE SMITH. Pp. x., 99. London: Smith, Elder, & Co. 1900.

This is a book reviewing the general aspects of paralytic deformities of the lower extremities. It is chiefly an expression of the experience of the author in certain cited cases, rather than a systematic treatise on the subject, and in particular indicates deformities in medical affections which are amenable to surgical treatment. The author is of opinion (p. 65) that tenotomy of the tendon of a paralysed muscle may restore that muscle to function in certain cases.

Letter-, Word- and Mind-Blindness. By JAMES HINSHELWOOD, M.D. Pp. 88. London: H. K. Lewis. 1900.

The first chapter, an interesting essay on the visual memory, forms an introduction to the remaining four chapters, which originally appeared in the *Lancet*. The reader will find in them an excellent account of certain varieties of aphasia; the illustrative cases are well reported, and the meaning and mode of production of the symptoms fully discussed. Many readers, who read with interest the papers when they first appeared, will be glad to have them in this convenient form.

Flesh Foods. By C. AINSWORTH MITCHELL. Pp. xv., 336. London: Charles Griffin & Company, Limited. 1900.

Within a remarkably small compass, considering the extent of ground covered, the author presents a very complete conspectus of our knowledge concerning the composition of the meats derived from the numerous animals used for human food. After two introductory chapters dealing with the structure of animal tissues, and such definite chemical bodies as have been found to enter into their constitution, the special subject of this book is introduced by an account of the distinctive features of the flesh of different animals, both domesticated and wild, followed in the succeeding chapter by a description of the methods of examination of meat for soundness and condition, including Eber's tests for putrefaction, and attention is drawn to the practice of producing "blown" meat. A section is here devoted to the digestibility of various meats. Popular ideas on the subject are hardly in accord with the conclusion that beef and veal rank highest in this respect, and are closely followed by salmon; whereas chicken and white fish are attacked by pepsin with much less completeness. In the fifth chapter are briefly

but accurately described the methods of fat analysis, in connection with which the author has published useful original work; and then follows a very interesting account of the various methods of preserving meat, a timely note as to the use of nitre in pickling liquor, reminding the reader that the use of this distinctly poisonous salt is hardly questioned, whereas in some quarters no condemnation is too severe for the comparatively innocent borax.

A chapter on sausages, with a detailed account of the methods for the detection of horseflesh, throws considerable light on the composition of these very popular luxuries.

Chapters viii. and xi., dealing with the proteids, the methods employed in their separation and recognition, and the application of these methods to the examination of meat extracts and other preparations, are amongst the most important in the book; and if their perusal leaves the reader with a sensation of uncertainty as to the extent of reliable knowledge in this direction, this is not to be attributed to any remissness on the part of the author, so much as to the fact that this department of practical chemistry is yet in its infancy.

The succeeding chapters, on the influence of cooking, on poisonous flesh, and on the parasites which occur in animal tissues, are not less well conceived than those already described; whilst the final section, dealing with the detection and properties of ptomaines, will be of considerable assistance to the student requiring information.

It will be gathered from the preceding notes that hardly a question can be raised in reference to the subject matter of this volume, to which a reply, more or less complete, will not be found between its covers; and the references which are uniformly appended to notices of processes materially enhance the value of the book.

Atlas of External Diseases of the Eye. By A. MAITLAND RAMSAY, M.D. Pp. xvi., 195. Glasgow: James MacLehose & Sons. 1898.

The plates in this atlas are nearly all executed from photographs taken under the personal superintendence of the author, from actual cases under his care at the Glasgow Eye Infirmary.

Both the photogravures and the chromo-lithograph plates are admirable in execution, and illustrate faithfully a large number of the most characteristic affections of the eyes and eyelids. Some are shown in association with the more general conditions typical of the disease of which they form a part. The representations of "Interstitial Keratitis," "Strumous Ophthalmia," "Tumours of the Sphenoid," and "Aneurism of the Orbit," among others, are very accurate as well as artistic.

The book does credit to its author and to its publisher—

it is worthy to take rank with the atlases of Dalrymple, of Ruete, and of Demours.

Besides the excellence of the illustrations is that of the general arrangement of the book. Each chapter is headed by the Greek derivation of the name of the disease, and by the synonyms by which it is known in different countries. The descriptions are simple, but accurate and definite, and it may be fairly claimed that they assist in making the book "useful to medical men in general practice, who may not have many opportunities of visiting the wards and clinique of an ophthalmic institution."

Almost all the well-recognised external eye diseases are adequately dealt with, and when the special ætiological factor is a bacillus the particular organism is indicated if not described. Spring catarrh is not illustrated and is too briefly described, and this could no doubt be said of some other affections; but occasional defects do not spoil the general excellence of the work—which will be a valuable book of reference to the general practitioner, a real addition to the library of the ophthalmic surgeon, and worthy of a place on the shelves of any book collector.

Manual of Ophthalmic Surgery and Medicine. By WALTER H. H. JESSOP, M.B. Pp. xiv., 469. London: J. & A. Churchill. 1898.

Among the many excellent handbooks devoted to ophthalmic practice, the one before us deserves to be well recommended. The book is dedicated to the students of St. Bartholomew's Hospital, and it is probably chiefly for the use of students that it was written. Its matter is well arranged, clear and concise, and it is accurate and up to date. The symptoms and progress of a disease, its causation and pathology, are adequately dealt with before any mention of its treatment is made. A short but sufficient description of the anatomy of each structure of the eyeball is given, before the diseases to which that portion is liable are described.

The chapters on the pupil, and on the affections of the ocular muscles, are amongst the best in the book.

Both the student of medicine and the medical practitioner will find Jessop's *Manual* well adapted towards an acquisition of a knowledge of the eye and its diseases, or for reference in difficulties as to the diagnosis or the treatment of such diseases.

Practical Text-Book of Midwifery for Nurses and Students. By ROBERT JARDINE, M.D. Pp. xv., 245. Edinburgh: William F. Clay. 1899.

This little book has certain merits in itself, in that it contains many sound and useful axioms of midwifery practice.

As a text-book for nurses it has the fault of being overburdened with detail of processes, a knowledge of which is not necessary to a nurse or midwife, while in many important details it lacks precision.

For example, we cannot understand the necessity for burdening a book for nurses with descriptions and figures of pathological curiosities such as the forms of contracted pelvis described by Robert and Naegele, with which few medical men are acquainted except as depicted in plates or in the form of plaster-casts of the originals.

We cannot commend the author in his advice as to the administration of morphia in the shape of $\frac{1}{4}$-grain suppository, or of laudanum in doses of 10 to 15 minims, by the nurse. This, in our opinion, should not be done except under medical advice.

Under the treatment of *post partum* relaxation the nurse is advised to give "ergot every four hours;" no dose is mentioned.

"Sapræmia" is to be treated by the administration of a vaginal douche: if the temperature remains high medical or rather skilled assistance is to be sought, thus allowing plenty of time for general infection to take place; but "septicæmia" demands medical assistance.

No nurse or midwife should be taught that she is to treat such cases on her own responsibility, or that she is to wait for certain symptoms before sending for medical assistance.

In describing the preparation of artificial human milk, the author advises the adding of the whey produced by the addition of rennet to part of the milk, and extraction of the curd, to the remainder of the milk without any furthur treatment. The result if the whey is not boiled first is to cause the whole of the milk to curdle and become useless.

We notice several clerical and typographical errors: "a pulse of *120°* (degrees)," "decidu-*æ*," "a man *by the name of*," are a few of these.

Kurzgefasstes Lehrbuch der Kinderheilkunde. Von Dr. CARL SEITZ. Pp. viii., 499. Berlin: S. Karger. 1901 [*sic*].

This is the second edition of a text-book on diseases of children, of which the first was published in 1893. It is a steady-going, humdrum, uninteresting book, with but little sense of perspective or proportion; the description of leucocythemia, for instance, occupies two pages, that of Asiatic cholera three pages, whilst that of adenoids is dismissed in a bare page and a quarter! The description of each particular disease is steadily worked through—anatomy, symptoms, diagnosis, prognosis, and treatment—in a jog-trot sort of way, so that whilst there is very little essential omitted, discussion of relationships of diseases, theories of their causation, the differences between adults and children in their liability to various diseases, the varying forms the same disease assumes in adults and children,

the curious reactions of children to drugs—all that makes the study of children's diseases interesting—is disregarded. For instance, the fact that infantile scurvy often follows rickets is only mentioned. There is no general discussion of rheumatism in children, with its protean forms. Absence or deficiency of fat in food is not even mentioned as a factor in the etiology of rickets.

The Pathology of Emotions. By CH. FÉRÉ. Rendered into English by ROBERT PARK, M.D. Pp. vii., 525, xiv. London: The University Press, Ltd. 1899.

The author premises that the emotions as representative states of consciousness have physiological conditions similar to those aroused by the original excitations, and that physical agents which modify the one can, in like manner, modify the other. He then sets forth that this similitude of somatic states helps to establish the physical nature, normal or abnormal, of the mind, and to indicate that the study of mental medicine, as a specialisation of general medicine only, should be followed through physical procedures.

The physiology of attention is thoroughly examined and the discussion upon its relations to nutritional anomalies, functional paralysis, hysteria and mental disease occupies an extensive portion of the book. Plenty of space, too, is devoted to the physical changes accompanying morbid emotional states, to the reaction of mental and physical processes the one on the other, and to alterations in blood constitution and phagocytic activity. The chapters devoted to morbid psychology form a very important section of the book; and many other interesting matters are thoroughly discussed. The author speaks in terms of strong condemnation regarding the license given to the degenerate class by too free employment of the plea of irresponsibility; impunity for crimes and excess of assistance to all categories of degenerates concur, in his opinion, to traverse natural selection. He holds that too much confidence has been placed in the theory of the physical attributes of the degenerate class; the presence of deformities or maladies should not be allowed to bias the impartial administration of the law. The position frequently assumed by the medical expert in cases involving responsibility for crime is severely criticised. M. Féré would advocate increased rather than lessened stringency in dealing with the subjects of defective control, urging that discipline must correct the tendency to morbid impulses; this we believe to be sound reasoning, but we cannot agree with Féré in such a statement as the following:—"The most violent impulsions can be restrained so long as the subject has consciousness of his criminality of act and the consequences it may entail upon him" (p. 504).

Without having advanced any notable original matter, the author has treated his subject fully, adequately, and in an

interesting manner, and the book should have been a distinct acquisition to the library of the psychological student. But before we can unhesitatingly recommend the purchase of the work, some strictures on the mode of its production in English form are imperative. The translation of a foreign work should only be entrusted to a proficient in the particular tongue, and if possible to one who has an especial knowledge of the subject treated. Dr. Park would seem to vouch for his own efficiency in the latter respect, inasmuch as he claims in the preface to have already arrived at Monsieur Féré's conclusions by other methods; from this the reader might hope to find an intelligent rendering of fairly straightforward French writing. But however erudite in psychology the translator may be, his labour is in vain if his knowledge of the language from which he translates is but scanty and his power to express his thoughts in his own language defective. For an example of Dr. Park's English style we indicate his own preface. For specimens of his faulty translation we refer the reader to the entire work, which is gravely prejudiced by blunders which a schoolboy would blush to commit. Such an unhappy rendering of an excellent book is the less excusable seeing that Dr. Park informs us that he has devoted his leisure to the task of translation.

Health Abroad: A Medical Handbook of Travel. Edited by Edmund Hobhouse, M.D. Pp. xv., 372. London: Smith, Elder, & Co. 1899.

The main object of this book is to enable the traveller to preserve his health whilst travelling in unknown climates, to be familiar with the various emergencies which may arise when medical aid is not forthcoming, and to treat them to the best advantage. Well does the editor preface the contents of the volume with the remark that "Too often foreign travel, instead of restoring health, is the means of sowing the seeds of disease in those previously strong and healthy, when a couple of days' rest or a few simple precautions might have saved a life from being wrecked by chronic ill-health or destroyed by fever." The wide scope of the subject matter has rightly led the responsibility for the information on the various districts being placed in the hands of those who can speak from personal experience gained by residence: thus for Northern Africa and Egypt, Dr. Leigh Canney is the author; for Central Africa, Dr. Harford Battersby; and so forth. The article on South Africa is not quite up to date for obvious reasons, but we hope that the sanitation of Pretoria, the capital of the "Transvaal," will not long "leave much to be desired."

The book is eminently handy, and the contents well arranged, and of great practical utility to all who contemplate leaving their native land.

Tropical Diseases. By PATRICK MANSON, C.M.G., M.D. Revised and Enlarged [Second] Edition. Pp. xx., 684. London: Cassell and Company, Limited. 1900.—The appearance of an enlarged and revised edition of this work within two years is fully justified by the rapid strides made in our knowledge of the ætiology of some of the diseases of tropical climates, and although the size of the book is increased by 58 pages it still keeps its manual form, and its value as a text-book is beyond question. The author, in his introduction, remarks that a student of medicine should also be a naturalist; and the truth of this is evident when we come to study the more recent researches on the parasitic origin of malaria and other diseases. Nevertheless, the subject of malarial parasitism is so clearly dealt with in this volume, that the reader will find no great difficulty in mastering the essentials of the mode of propagation of this disease through the agency of the mosquito, the discovery of which is due to the combined labours of Dr. Manson and Dr. R. Ross. The definition given of malaria is significant of the complete change in our knowledge of the causation of this disease. Simply and modestly the author shows the reasoning by which he was led to the conclusion that the parasite of malaria in passing from one host to another must have an extra-corporeal existence; and his researches on filarial disease induced him to advance the opinion that some species of mosquito was the intermediate host; an opinion subsequently confirmed by the able researches of Dr. R. Ross. Chapter II. is of great value to the student who desires to familiarise himself with the appearance of the parasite, and if the directions there given be followed, no great difficulty should be experienced in demonstrating the various forms of its intra-corporeal existence; in fact the author, in his remarks on the diagnosis of malaria, considers that in some cases the only *certain* test is a microscopical examination of the blood. In the treatment and prophylaxis of malaria, no drug, in the author's opinion, replaces quinine; and his teaching as to its administration, either by mouth or hypodermically, is thoroughly practical. The probable germ origin of yellow fever is shortly discussed. As regards its treatment, Dr. Manson puts careful nursing in the first place. The chapters in Section III., dealing with cholera, dysentery, tropical liver and liver abscess, are amongst the most valuable in the book. The author inclines to the belief that both dysentery and liver abscess are due to the amæba coli. The detail of the variety of symptoms of liver abscess is most excellent, and the possibility of large collections of pus being altogether overlooked is impressed on the reader. Leprosy, Yaws, Oriental sore, Sprue, Animal parasites, and other strange and rare affections met with in the tropics, are all treated in a practical and scientific manner. We have no hesitation in saying that this book should be in the possession of all medical men whose practice is in tropical countries.

Rheumatism, Rheumatoid Arthritis, and Subcutaneous Nodules. By C. O. HAWTHORNE, M.D. Pp. ix., 53. London: J. & A. Churchill. 1900.—This essay is an endeavour to face the question whether the deformed condition of the joints in rheumatoid arthritis is due to the same agency as that which produces the acute polyarthritis of rheumatic fever. Cases are adduced which qualify to some extent the statement that subcutaneous nodules are conclusive evidence of rheumatism, and give some evidence against the view that the occurrence of such tumours in undoubted cases of rheumatoid arthritis is a demonstration of the rheumatic nature of that affection. The apparent contradictions which the facts disclose forbid any dogmatic declaration in a field which is much embarrassed by personal creeds.

Human Nature: its Principles and the Principles of Physiognomy. By PHYSICIST. Part II. Pp. viii., 175. London: J. & A. Churchill. 1899.—For those who wish to matriculate for Colney Hatch this book may be strongly recommended. As we have no wish to enter that excellent institution, we did not study the book from beginning to end, but contented ourselves with the state of mental confusion produced by reading the first hundred pages or so. In fact we were rather alarmed (being of short stature and limited means) to find (on page 17) the following statement: "Of two healthy individuals, the purpose . . . of the larger will incline . . . towards Self Preservation, and the purpose of the smaller will incline . . . towards Reproduction." Also it is disconcerting to find (on page 59) that chronic dyspepsia is characterised by "great piety and morality, avarice, love of admiration (Vanity), and the desire of knowledge." This is almost sufficient to induce one to cultivate chronic dyspepsia. But confusing as the book is, it is difficult to get much amusement out of it, and it cannot be recommended for the ordinary reader.

The Pathogenesis and Treatment of Cancer without Operation. By ROBERT BELL, M.D. Pp. 43. Glasgow: Robert Love Holmes. 1900.—Much as we should rejoice to think that the author has really found a means of curing cancer by the application of hot air and thyroid extract, we are not convinced by the meagre report of cases given at the end of a book which appears to be written more for the lay than the medical mind. That thyroid extract is helpful we may admit, but the present state of our knowledge and the common sense of the profession will, we trust, prevent others from imitating the temerity of one who has "no hesitation in going the length of affirming, that where complete removal of the disease can reasonably be expected by surgical measures, the therapeutics, which I advocate, will prove quite as efficacious. . . ." It would be well for Dr. Bell to have the specimens of his cancers obtained by curettage submitted to some independent pathologist.

A Manual of Surgery. By WILLIAM ROSE, M.B., and ALBERT CARLESS. Third Edition. Pp. xiv., 1182. London: Baillière, Tindall, and Cox. 1900.—This excellent work has so rapidly run through its three editions that there is little change in the text of this edition, though some new plates and skiagrams have been added. There has, however, been a welcome change in the arrangement of the matter. Formerly injuries and diseases of the different regions were often widely separated; but now they have been brought together, and reference is thereby much facilitated. As new editions appear there is frequently a tendency to increase the size of a book, but we are pleased to notice that since its first issue the volume has only been increased by twenty pages. The whole work is praiseworthy and reliable, clearly written, well abreast of the times, and worthy of recommendation.

A Contribution to the Surgery of Fractures and Dislocations of the Upper Extremity. By J. E. PLATT. Pp. x., 228. London: H. K. Lewis. 1899.—This is a record of all the fractures and dislocations of the upper extremity seen at the Manchester Infirmary during a period of two years. The book is full of long tabulations relating to the nature of the fracture, displacement, treatment, and result, etc., etc., which are very tedious to look at. There are a few skiagrams showing various fractures, but these for the most part are not very good. The book represents much careful work; but of course a large number of very ordinary fractures and very ordinary modes of treatment are included in it, which can be studied equally well in the modern text-books of surgery. In fact, except for the author's own edification, we doubt if much value will accrue from the work.

Enlargement of the Prostate: its Treatment and Radical Cure. By C. MANSELL MOULLIN, M.D. Second Edition. Pp. xi., 211. London: H. K. Lewis. 1899.—In the present issue space has been gained by wisely omitting some of the obsolete operations described in the former edition. In suitable cases the author prefers orchidectomy to division of the vasa deferentia, and gives good reason for his choice; but the views of Mr. Reginald Harrison on this subject have not received the consideration they deserve. The book is written in clear language, and forms one of the best treatises on a disease which is common enough, but which is only too apt to be neglected from ignorance of what can be done in such cases. We heartily commend the work to the general practitioner as well as to the operating surgeon.

A Synopsis of the British Pharmacopœia, 1898. By H. WIPPELL GADD. Fifth Edition. Pp. 223. Bristol: Evans, Gadd & Co. 1900.—The fact that this is the fifth edition of a work, of which over 6000 copies have been sold within two years of its publication, is a sufficient indication of its utility.

A Manual of Pathology. By JOSEPH COATS, M.D. Fourth Edition, revised throughout by LEWIS R. SUTHERLAND, M.B. Pp. xxv., 1132. London: Longmans, Green, and Co. 1900. —A melancholy interest attaches to the issue of the fourth edition of this well-known work, in that it appears after the lamented death of the learned and accomplished author. Prof. Gairdner has written a short and appreciative prefatory notice of Prof. Coats, in which he states that "the present edition may be said to have the counsel and support of the late author up to the very close of his life," and the work of revisal has been carried out on the lines laid down by him. Many of the old illustrations have been replaced by new ones, and they are, both old and new, well-chosen and abundant. The book is so well known, and has attained to such wide appreciation, that it is scarcely necessary to say more than that Dr. Sutherland in editing this edition has been careful to keep all its original features. It is difficult nowadays for a work which deals with all branches of pathology to be equally good in all, and in this one for instance the section on the malarial organism is somewhat inadequate; but taken as a whole the book still gives the most complete account of pathology available for the student in one volume of moderate size, and never fails to keep before him its bearings upon practical medicine.

Lowestoft as a Winter Resort. Pp. 31. Lowestoft: Dotesio & Todd. 1899.—The information contained in the thirty-one pages of this booklet is accurate and interesting. It is too often forgotten that the East Coast, justly celebrated for its March winds, is equally conspicuous for its mild and sunny autumn; and the fisherman's saying that "you can warm your hands in the sea up to Christmas" gives the clue to the reason of the daily range of temperature being less at Lowestoft than at Greenwich. Golf, shooting, fishing, and yachting provide plenty of outdoor attractions, and the town appears to be quite up to date in its indoor amusements.

Golden Rules of Ophthalmic Practice. By GUSTAVUS HARTRIDGE. Pp. 69. Bristol: John Wright & Co. [1900].—Though intended primarily for the student, this little book contains much information which should be of value to the general practitioner. The subjects are arranged in alphabetical order, and the information given is wonderfully complete considering the limited amount of space at the disposal of the author. We can very strongly recommend the book to the notice of students working in ophthalmic departments.

Mentally-Deficient Children: Their Treatment and Training. By G. E. SHUTTLEWORTH, M.D. Second Edition. Pp. xvi., 180. London: H. K. Lewis. 1900.—The appearance of a second edition of this work sufficiently indicates that it has found acceptance with the profession, as indeed it deserved to do, for it gives a clear account of a class of cases on which

every practitioner is sometimes appealed to for advice. The sections on treatment, training, and education of mentally-defective children are particularly helpful. To this second edition two additional chapters have been added; one on the results of an investigation by the Education Department, and another on the practical measures adopted for special instruction of the feeble-minded by several school authorities.

On the Prevention of Eye Accidents Occurring in Trades. By SIMEON SNELL. Pp. 32. London: John Bale, Sons & Danielsson, Ltd. 1899.—The writer, who is eminently qualified to express an opinion on the subject, gives figures and statistics to prove the awful frequency with which eye accidents occur, more especially in the iron and steel trades. He states that it is not the employers but the men who are reluctant to adopt precautionary measures! The conclusions arrived at are that grinders should wear glass protectors, and that the use of protectors should be made compulsory to iron and steel workers. For these latter he recommends protecting spectacles or shields made of aluminium gauze, which will not rust and cause very little interference with sight.

Golden Rules of Obstetric Practice. By W. E. FOTHERGILL, M.D. Pp. 71. Bristol: John Wright & Co. [1898].—While we do not as a rule approve of the use of such works as the above, we must admit that Dr. Fothergill has embodied in his little book a large number of useful hints, many of which are not found in the larger text-books. A work of this nature is necessarily brief to baldness, and should not be looked upon as more than a waistcoat-pocket remembrancer. As far as it goes the information contained in it is accurate and well put, and if used properly may be found to be of considerable value. It must not, however, be looked upon as a substitute for the larger manuals, but used merely as an adjunct to them.

Lectures on Hæmorrhage and Eclampsia. By ROBERT JARDINE, M.D. Pp. 76. Edinburgh: William F. Clay. 1899.—The author gives a very interesting description of numerous cases treated by him. One special point to be noted is the use he makes of intra-cellular injections of saline fluid in both conditions—in the cases of hemorrhage to re-establish the circulation, and in the cases of eclampsia to promote diuresis. In spite of the fact that this treatment was not always successful, we feel no doubt as to the author's contention in favour of the method, especially in the second class of cases, since we have found similar results from the use of continuous rectal irrigation with saline solution. The mortality of both conditions is so high that the fact of the line of treatment proving a failure should not influence us unfavourably, since the rapidity of the loss of blood in severe hemorrhage is such that it is difficult to be sufficiently prompt in its application, while in eclampsia the damage to the kidney is often enough to prevent any re-establishment of its

excretory power. It is interesting to note that one case of eclampsia treated with morphia died with, apparently, symptoms of morphia poisoning. In a fatal case of accidental hemorrhage, in which Champetier de Ribes's bag was used, the bag burst, and before this evidently detached the placenta, thus aggravating the trouble. We have always felt that this accident (detachment of the placenta) was a possibility in cases treated by this instrument, and prefer methods not so liable to cause this accident, such as the use of conical plugs of iodoform gauze or the dilating bags of Barnes. The lectures are thoroughly practical and lucid: we can strongly recommend their perusal to the practitioner. We notice with pleasure the beneficial result of blood-letting in some of the cases of eclampsia; this method of treatment has fallen into unmerited disuse, and in properly selected cases its effects are marvellous. We notice among some few clerical errors the use of decidu-æ for decidua. Some capital plates are introduced to illustrate various cases. The lectures are a thoroughly practical and useful contribution to the study of the complications referred to.

The Diagnosis and Treatment of Eczema. By TOM ROBINSON, M.D. Second Edition. Pp. 136. London: J. & A. Churchill. 1900.—The term eczematous diathesis which is used by Mr. Robinson (if there is such a condition) might, we think, have been expressed with more brevity: as, for instance, Mr. Jonathan Hutchinson's way of putting it, namely, that some people possess skins which do not wear well. The cases Mr. Robinson says he has been seeing during the last few weeks, with "an affection of the face which is usually known as *relapsing erysipelas*, which displays an erythematous condition of the bridge of the nose, spreading with more or less symmetry over the malar bones and going to the ears," etc., strike us as unusually resembling cases of lupus erythematosus. We dislike the word erysipelas being used unless it has been proved to originate with the specific agent of the disease, namely, the *streptococcus pyogenes*, with which the *streptococcus erysipelatis* appears to be identical. Mr. Robinson says emphatically that eczema is not contagious. Unna's view is as emphatic in the opposite direction. We think it should be more clearly stated that tinea cruris seu axillaris always depends upon the ringworm fungus, and constitutes the so-called eczema marginatum. To aver that the cases which are known as pityriasis rubra are examples of erythematous eczema is, to say the least, a bold assertion for a dermatologist. Mr. Robinson says that when eczema appears during the process of teething, it is absurd to think that it is produced or modified by it. We are not so sure of this. We believe Mr. Robinson is not far from correct in asserting that herpes zoster only occurs once during a lifetime. Mr. Robinson thinks the itching accompanying lichen ruber is less than occurs in eczema. In the treatment of chronic eczema, Mr. Robinson is a believer in the efficacy of arsenic, if the eczema occurs on both sides of the body. We think it as

often does harm as good, especially if it disturbs the disgestive organs. The local treatment, as well as the general management, is practical and common-sense treatment. Mr. Robinson says we must never send eczematous patients to the sea. We consider there are very many exceptions to this rule. He well says experience must be the great teacher, whether it be in recognising disease or in guiding it to recovery. The book is in large type and on good paper, and will no doubt be found useful to practitioners and students of medicine; but it cannot be compared to the modern text-books of dermatology.

Spencer's Disease: Dermatitis Multiformis Exfoliativa. By WALTER SPENCER, M.D. Pp. 16. London: Pewtress & Co. 1899.—We have looked through this pamphlet with interest and care, but we fail to see why such a distinct appellation should be applied. The name of a practitioner labelled upon any disease or manifestation of unusual symptoms cannot be too strongly deprecated. Dr. Spencer relates twenty-five cases of infectious dermatitis, and occurring, with one exception—case 1, E. K., aged 3½ years—amongst newly-born children. In two cases, Nos. 7 and 20, a rash was present at birth. Some of the cases had admittedly a syphilitic taint. We feel sure we have had similar experiences of a desquamating complaint, which is certainly not scarlet fever nor measles nor German measles, although our cases were probably in older children than in Dr. Spencer's. We are strongly of opinion that there is an infectious disease, which is distinct from the above-mentioned exanthems, and when recovered from gives no immunity whatever from them. The low temperature, not exceeding 101°—except in one fatal case, No. 23, where it reached 103°,—is quite in accordance with our experience, and we have met with quite extensive desquamation continuing for six or seven weeks; and we also believe that morbilli and rubella may be regarded as predisposing agents: they give the germs, which are sui generis, a better breeding ground. We are quite prepared to hear of more and more cases as time passes on, and practitioners are on the alert for differentiation.

Surgical Ward Work and Nursing. By ALEXANDER MILES, M.D. Second Edition. Pp. viii., 288. London: The Scientific Press, Limited. 1899.—We are not enchanted with this work; in fact, it is little else than an illustrated instrument catalogue interlarded with some letterpress, and the latter does not contain the practical information one expects in a book of the sort. For instance, the description of Thomas' hip-splint is most inadequate for one who has never seen or heard of it before, and it is for such as these the book is intended. The statement on page 64, that "it is quite exceptional to find a hospital hypodermic syringe fit for use," makes us wonder where the author studied, as we have always found a number at our hospital ready and those in the anæsthetic room never to fail. Much of

the material in this book is, in our opinion, learnt properly by the student only practically and not from any book at all; and if a book is necessary, there are better ones than this.

Medical Missions. By G. E. F. M. Pp. 40. Weston-super-Mare: Davies Brothers.—One chief object of this pamphlet is to point out the very great extent to which the New Testament history is a record of medical mission work, and that we have the same injunction to heal diseases as to evangelise nations. Attention is also drawn to the fact that a medical missionary is a fully-qualified specially-trained medical man, and to the extent to which medical missions assist in the spread of civilisation.

Transactions of the American Dermatological Association for 1898 and 1899. Concord, N.H.: The Rumford Press. 1899–1900.—The presidential address of the 1898 meeting was given by Dr. J. Nevins Hyde, of Chicago, and contained many interesting statements. Lavage of the colon and aseptic treatment of the alimentary canal for acne were highly spoken of. An International Board of Health to deal with a problem like leprosy was suggested; but at present we fear there is little likelihood of this bearing practical fruit, although an International Leprosy Conference has been held and 'broken ground.' Segregation for lupus and other disfiguring face diseases may become a problem in the future. Congenital origin seems to be receiving a broader foundation. Tubercular bacilli have been found in the testes of tuberculous patients without other uro-genital symptoms. Artificial tuberculosis of the placenta of guinea-pigs has resulted in the birth of tuberculous offspring. It is interesting, but at the same time rather humiliating, to have it recorded that 278 new remedies during the year (past) have been placed on the chemists' lists. There ought to be no diseases left. The "contents" of the Transactions are fifteen in number, and some of them, unquestionably, of great value, in addition to reports on "Exhibition of Cases" and those of the statistical committee. "Trophic Dermatoses following Fractures," by Dr. J. Zeisler, of Chicago, opens up new ground. The volume, containing the papers read at the 1899 meeting, consists of 176 pages, as compared with 166 in 1898. The work is well printed, and the plates cleverly executed. The presidential address by Dr. J. A. Fordyce, of New York, is far-reaching and pregnant with suggestions: *e.g.* (p. 3), "the products of the bacillus of tuberculosis in the skin . . . , may differ from those produced by the organism in the lungs, bone, or lymph-nodes, and this difference may explain the variations in the clinical course of lupus vulgaris as it affects the skin and mucous membranes, and the true tuberculous ulcer of the mucous membranes and adjacent skin. The same organism previously inoculated in the skin producing its peculiar toxin gives rise to a definite clinical picture, while the inoculation resulting from the bacilli grown in the lungs, with its different

or more virulent toxin, results in a condition which is quite unlike the slowly-progressing lupus." Dr. L. D. Bulkley, of New York, contributes a very valuable paper on "Imperfect or deficient urinary secretion in connection with certain diseases of the skin," the outcome of 2000 analyses of the urine of skin patients, made in his office, during the last ten years. "Two Epidemics of Alopecia Areata in an Asylum for Girls," by the Vice-President of the Association, Dr. J. T. Bowen, of New York, give strong colour to the parasitic theory of certain forms, in spite of many opinions to the contrary. Dr. Sherwell, of Brooklyn, confirms by very cogent reasons his treatment of scabies by the dry sublimed sulphur process. We can corroborate its simplicity, utility, and cleanliness. The exhibition of clinical cases, photographs, and drawings was large and good, apparently; but nomenclature is not simplified by such terms as "fibroma—dermatolysis extraordinarius Japaniensis!"

Transactions of the Medical Society of the State of New York. Published by the Society. 1900.—A series of seven papers on the State-care of tuberculous patients is worthy of especial consideration just now when provision for consumptives is being sought for in this direction. The papers are headed as follows:—(1) "The Duty of State and Municipality in the care of Pulmonary Tuberculosis among the Poor," by Edward O. Otis, M.D. (2) "Remarks upon the work accomplished at the State Hospital for Consumptives at Rutland, Mass.," by Vincent Y. Bowditch, M.D. (3) "Some results of the Climatic and Sanatorium Treatment of Tuberculosis in the Adirondacks," by E. R. Baldwin, M.D. (4) "The Infectious Character of Tuberculosis and the Prognosis of Incipient Consumption," by George Blumer, M.D. (5) "The Policy of the State relative to the Spread of Tuberculosis," by Enoch V. Stoddard, M.D. (6) "Legislation concerning Tuberculosis — Past, Present, and Future," by Senator Horace White. (7) "Taxation with relation to the State-care of Consumptives," by Hon. Otto Kelsey. (8) "Bovine Tuberculosis," by James Law, F.R.C.V.S. It is claimed that on the grounds of economy, prophylaxis, and humanity treatment and care should be afforded to the poor consumptive. The magnitude of the task seems to be only a greater reason why the State should undertake it. Private philanthropy has made a good beginning, but can only do a fraction of it. Whilst England has seventeen hospitals, homes, and sanatoria for consumptives, free or partially so, Germany takes the lead with more than double this number.

The American Year-Book of Medicine and Surgery. London: Rebman, Limited. Philadelphia: W. B. Saunders. 1900.—Gould's year-book is now issued in two volumes: that on medicine contains 656 pages, written by well-known contributors of Philadelphia, Chicago, Cleveland, Montreal, Boston, and Baltimore. An article on cerebro-spinal fever deserves especial

mention at the present time, as it appears that we are now passing through an epidemic period of this disease in Europe and America. Osler, in his Cavendish lecture of last year, gives particulars of recent epidemics in Boston, Baltimore, and elsewhere, and considers the disease to be an acute infection produced by a peculiar micrococcus, the meningococcus, to which Weichselbaum has given the name diplococcus intracellularis (*vide* page 313): various authors consider this to be the specific organism, and admit no other in the etiology of the disease. Our June number (page 128) contained a report on two sporadic cases occurring in the Bristol General Hospital, and more recently several cases have been observed in the Bristol Royal Infirmary. It appears that we have something like an epidemic amongst us, and it is one of the most fatal of all acute diseases, having a mortality of about 68 per cent. One of the most accurate means of diagnosis is that described as Quincke's lumbar puncture—a simple, quite harmless procedure, which enables us to obtain a sample of cerebro-spinal fluid in which the diplococcus may be easily demonstrated. Another symptom usually present is the spasm and contraction of the flexor muscles of the knee, known as Kernig's sign. Osler also comments on the occurrence of pneumococcic meningitis, and directs attention to the resemblances between pneumonic and cerebro-spinal fever in the matter of epidemicity. A new pathognomonic sign of measles (Koplik's spots) was described by Dr. Watson Williams in our June number (page 139). A coloured plate is reproduced in the year-book (page 274), and shews these spots better than any description can do. The volume on surgery contains 560 pages, of which 220 are devoted to general surgery, and the rest to the special departments of obstetrics, gynæcology, ophthalmology, otology, rhinology, laryngology, and anatomy. The abstracts from medical and surgical papers contained in these volumes are unquestionably of great value, both to those who, in a good medical library, have access to the original papers, and to those who have not. For the former the abstracts will be used more especially as an index of the scope of articles to which they meditate referring, though in many cases the abstracts themselves will be found sufficiently full to meet their requirements.

General Index to the Journal of the American Medical Association. Vols. I. to XXIV. inclusive. By WILLIAM B. ATKINSON, M.D. Pp. 360. Chicago: American Medical Association Press. 1896.—This forms a companion volume to the *Index of the Transactions* of the Association; the two works thus provide a "key to the American Medical Association proceedings and papers from 1849 to 1894, and since 1883 to all medical matters that have appeared in the Journal." It has been carefully prepared and its wide usefulness is apparent. Dr. Atkinson will have not only the thanks of the present generation, but also of a grateful posterity.

The Medical Annual Synoptical Index to Remedies and Diseases. For the twelve years 1887 to 1898. Pp. 411. Bristol: John Wright & Co. [1899].—This is not an index merely to the subjects in the twelve volumes of the *Medical Annual* which have already been published; for under the heading of "Remedies" it contains the dose and uses of drugs, and under the heading of "Diseases" it gives the methods of treatment. There is also given a summary of the chief alterations in the new Pharmacopœia, and some test types for examining the acuteness of vision, both being reprinted from former numbers of the *Annual*. The index therefore appeals to a wider field than those who are fortunate enough to possess the back numbers of the *Medical Annual*, and is usefully arranged for ready reference on the matters of which it treats.

The American Medical Quarterly. Vol. I., No. 1. June, 1899. New York: The American Medical Quarterly Company.—The editor of this magazine tells us that its special province is "to furnish its readers practical rather than experimental or theoretical contributions from the front ranks of the profession." We are glad to have this new quarterly on our exchange-list. It ought to find a place in an already voluminous literature; for if the first number may be taken as a sample of the high standard of the articles which is to be maintained in future issues, the success of the *American Medical Quarterly* will be ensured. It is freely and well illustrated.

Consumption Chart and Case Paper. Bristol: J. Wright & Co.—The increased attention to the details of tubercular phthisis, and the necessity for recording many details not mentioned on the ordinary temperature charts, has led to the publication, at the suggestion of Dr. L. Kidd, of a special chart with arrangements for recording the temperature four times daily, and with spaces for recording weight, hæmoptysis, chest measurements, and the condition of sputum and other excreta. The case paper contains outline forms for noting the physical signs, and all the principal points are mentioned; there is, however, one singular fault, as it allows quite insufficient space for any details of the previous history of the patient.

Edinburgh Hospital Reports. Vol. V. Edinburgh: Young J. Pentland. 1898. Vol. VI. Edinburgh: Oliver and Boyd. 1900.—These two volumes well maintain the high reputation of their predecessors, and we may say at once are equally well printed and fully illustrated. It is impossible to adequately indicate in a short notice the contents of volumes which contain such a large number of papers covering so wide a range of subjects. Without attempting to do this we may briefly state that, besides papers of much practical interest on well-known diseases, there are some which give valuable information on many extremely rare conditions, which add to our knowledge of them, and others giving the details of original methods and

researches in medicine, surgery, and pathology. We think no one can read the reports without finding something to learn and something of interest to him.

Electro-Medical Instruments and their Management, and Illustrated Price List of Electro-Medical Apparatus. By K. SCHALL. Sixth Edition. Pp. vii., 154. London: Bemrose & Sons Ltd. 1899.—The busy man who has not time to consult large works on electricity will find this book very useful to keep by him for reference; for in addition to being a very complete catalogue of electro-medical instruments, it has a treatise written in a most lucid style explaining the elements of electricity and the various electrical instruments in medical use, including a description of the Wehnelt Interrupter for X-ray work.

Burdett's Hospitals and Charities. London: The Scientific Press (Limited). 1900. — In welcoming this last issue of a compilation of the utmost utility to all who take a practical interest in hospitals and their management, we would direct attention to the authoritative articles on such topics as "The Financial Problem of the London Hospitals," "Hospital Construction in 1898 and 1899," "The Cost of Hospital Management, and of In- and Out-patients" Maintenance,' "Home and Foreign Missions," etc., which precede the statistical sections.

Transactions of the Association of American Physicians. Vol. XIV. Philadelphia: Printed for the Association. 1899. —This volume contains thirty papers, varying in length and in importance, but remarkable for their general excellence and the high level sustained by the work of the Association. Many of the cases reported are distinguished by their rarity, but the chief feature of the book is the practical value of the work done in advancing the study of clinical medicine. These Transactions will always repay careful study.

International Directory of Laryngologists and Otologists. Compiled by RICHARD LAKE. London: The Rebman Publishing Company (Ltd.). 1899.—A careful examination of the Directory convinces one that enormous trouble has been taken to ensure accuracy. A few errors and omissions are to be found, and this is unavoidable in a first issue; but the compiler deserves the thanks of all members of his speciality for his eminently useful production.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Vol. VII. Edinburgh: Oliver and Boyd. 1900.— Forty papers appear in this volume, all records of work of a highly scientific character and many of direct value to the medical practitioner. The expense of resetting papers already in print has been avoided by merely binding together these reprints. Such papers as that on "The Intracranial Circulation in some of its Aspects," by the late George Elder, whose

untimely death will be deplored by all who have been acquainted with his work; "The Action of Arsenic on the Bone-marrow and Blood," by Ralph Stockman and S. D. W. Greig; "An Experimental Investigation of the Action of Red Bone-marrow on the Blood in Anæmia," by J. S. Fowler; and others too numerous to mention, furnish evidence of the valuable work done in the laboratory.

Journal of Surgical Technology. July, 1900. New York: Technique Publishing Co.—This is an entirely new publication "devoted to the pure technique of surgical procedures," while it avoids questions of pathology, etiology, prognosis and the non-mechanical treatment of disease. There are some excellent original articles, but looking at the book as a whole it seems to have a somewhat limited scope and to overlap the work of the many excellent journals already in publication. The first number would, however, appear to justify its existence, and we wish the new journal every success.

Annual and Analytical Cyclopædia of Practical Medicine. Vol. V.—*Methyl-blue to Rabies.* Philadelphia: The F. A. Davis Company. 1900.—This volume includes many specialities—otology, laryngology, ophthalmology, neurology, pædiatrics, obstetrics, and therapeutics. Articles of especial note are Pleurisy, Catarrhal Pneumonia, and Lobar Pneumonia. The editor laments the death of two members of his associate staff—Dr. Norman Kerr, of London, and Dr. J. E. Graham, of Toronto. The article on Morphinism is the last contribution of the former to medical literature. "The special field to which Dr. Kerr devoted his labors has lost its most brilliant exponent; the profession at large one of its most faithful and honest workers." It is impossible to criticise these volumes as they succeed each other: they are on similar lines, and any individual article one may consult rarely fails to give one the desired information and assistance.

Notes on Preparations for the Sick.

Stypticin.—According to Merck's *Digest* this preparation is a derivative of the opium alkaloid narcotine. It exists as a colourless powder, which is freely soluble in water. Chemically and physiologically it resembles hydrastine, in being an excellent uterine hæmostatic; but in addition it is said to possess sedative and analgesic properties. The dose is one grain, taken three to six times a day.

Dr. Hommel's Hæmatogen. Hæmoglobin concentratum et Glycerinum purissimum.—NICOLAY & Co., London.—This compound is essentially a purified and concentrated solution of hæmoglobin flavoured with pure glycerine and Malaga wine, in the proportion of four ounces of glycerine and two ounces of the wine in each pint.

Given in doses ranging from one to four teaspoonfuls it has a large range of utility in cases associated with anæmia and defective blood formation. We cannot have too many hæmatinics: the inorganic preparations of iron are usually the most rapid in action, and give therefore the best results; but there are many patients who fail to derive that benefit which we expect, and in many of them the albuminates of iron do better. The solution when much diluted shows the characteristic spectrum of hæmoglobin, and it also gives an abundant precipitate with picric acid.

Tabloids. — BURROUGHS, WELLCOME & Co., London.— **Quinine Hydrobromide**, gr. iij.—gr. v.—It is now generally admitted that the hydrobromic salt of quinine has distinct advantages over the combination with other acids, hence these tabloids should be especially useful for persons who say that they can never take quinine, and for cases where full doses are required.

Codeine, gr. ¼—gr. ½.—For diabetic patients these tabloids should be especially useful.

Urotropine, gr. v.—This drug appears to be rapidly establishing a reputation for itself as a diuretic and an antiseptic for the urinary tract, and the tabloid is a very convenient form of it.

Blaud Pill, sugar-coated.—Each tabloid contains eight grains of the Blaud compound in a very efficient and convenient form. This dose is likely to be of more service than the smaller ones which are generally given, and which often fail when larger doses succeed.

Bismuth, Rhubarb and Soda.—Contains bismuth subnitrate, gr. iij.; powdered rhubarb, gr. j.; sodium bicarbonate, gr. ij. It disintegrates readily, and should be a very useful combination.

Chinosol (Potassium oxy-quinolin sulphate) gr. v.—This drug has been in use for surgical purposes, and the soloid has been a convenient means of preparation of a solution, which does not coagulate albumen or injure instruments. Recently it has been given in quantities of fifteen to thirty grains daily in cases of tubercular diseases of the glands and bones, also in leprous ulcerations, and in dysentery.

Cerebos Salt.— CEREBOS LIMITED, Newcastle-on-Tyne.— Attention is being again directed to the frequency of underfeeding in phosphates, and the facility with which the deficiency may be remedied by the use of Cerebos salt, which contains a

small but definite proportion of the mixed phosphates as found in wheaten bran.

"Enule" Brand Rectal Suppositories.—BURROUGHS, WELLCOME & Co., London.—These suppositories must facilitate rectal medication. A series of accurately dosed suppositories, of improved shape, and with each enule enclosed in a hermetically sealed sheath of tin-foil, is ready for use, and may be relied upon for promptness of action and therapeutic value.

Professor Caspari, in his *Treatise on Pharmacy*, page 390, says: "The usual shape of rectal suppositories is that of a cone with a rounded apex, but the difficulties of readily introducing these into the rectum, on account of the resistance offered by contraction of the sphincter muscle, has led to the designing of a *new shape*, by H. S. Wellcome, of London, the great advantage of which will become apparent when it is remembered that the bulbous end is inserted into the rectum first, and that as soon as the greatest diameter has been passed, expulsion of the suppository is impossible by reason of the very contractile force of the sphincter, which renders retention of the ordinary conical shape often so difficult."

The opium extract enule contains one grain in each. The sheath protects the contents from climatic and atmospheric influences.

The milk enule contains 10 grains (0.648 gm.) of concentrated peptone from milk, the caseine having been predigested.

The meat enule contains 8½ grains (0.551 gm.) of concentrated peptone from beef.

With these enules absorption may commence immediately after insertion, as it is not hindered by any coating or capsule of foreign matter. The protecting metallic sheath is of course to be removed before the insertion of the contents.

Oxo Fluid Beef.—G. STREET & Co., London.—This fluid is a very viscid condensed product made by the Liebig Company. One teaspoonful in a teacup of boiling water makes a palatable and stimulating draught. It is the outcome of many years experiments, and the promoters believe it to be the best fluid beef ever produced. They "do not hesitate to say that in composition, flavour, and potency it is better than any other fluid beef in the market." When much diluted it gives an abundant sediment, consisting for the most part of fragments of muscular fibres, and the fluid part shows the presence of an appreciable amount of albumen.

Protene.—THE PROTENE COMPANY, London.—On a former occasion (vol. xvii., 1899, p. 280) we directed attention to this milk product; and we have now again to allude to the great variety of food products of which Protene is the basis:

Ref. No.	NAME OF PRODUCT.	PERCENTAGE COMPOSITION.				
		Nitrogenous Matter. (Proteids.)	Carbohydrates. (Starch, Sugar.)	Mineral Salts.	Non-nitrogenous Matter.* (Fats, &c.)	Moisture.
3	Protene Wheat Flour ...	25	60	3	1	11
6	Protene Household Bread (White)	25	43	2	0	30
6	,, ,, (Brown)	25	30	3	0	42
7	**Protene Diabetic Bread ...**	**65**	**a trace**	**4**	**15**	**16**
8	**Protene Almond Bread ...**	**60**	**0**	**4**	**11**	**25**
9	Protene Gingerbread ...	25	54	2	5	14
10	**Protene Diabetic Gingerbread ... ...**	**40**	**18**	**2**	**29**	**11**
11	**Pure Protene Biscuits ...**	**60**	**a trace**	**4**	**28**	**8**
12	**Protene Medical Biscuits ...**	**50**	**10**	**3**	**29**	**8**
13	Protene Training Biscuits...	50	20	2	22	6
14	Protene Luncheon Biscuits	40	26	2	21	11
15	Protene Oatmeal Biscuits...	45	25	2	23	5
18	**Protene Fancy Biscuits (Diabetic)**	**40**	**16**	**2**	**36**	**6**
19	Protene Victoria Biscuits...	30	37	2	20	11
21	Protene Sponge Cakes ...	25	56	1	0	18
23	Protene Salt Sticks ...	35	40	3	18	4
24	Protene Rusks	30	42	2	18	8
25	**Protene Diabetic Rusks ...**	**50**	**16**	**2**	**27**	**5**
26	Protene Sponge Rusks ..	25	59	1	0	15

Nos. 7, 8, 10, 11, 12, 18, 25, are especially prepared for diabetic patients, and should be of great service to them.

Earl's I. and I. Food.—THE INFANT AND INVALID FOOD CO., London.—Of the making of foods there is no end, and it is difficult to choose among so many: nevertheless, a variety is often necessary, and it is sometimes convenient to resort to something out of the usual beaten track. The inventors of the "I. and I. Food" observing that certain cereals, although indigestible given separately, yet by combination are most easy of digestion, claim to "have successfully solved the problem which has hitherto baffled all previous attempts, by a combination of the most nutritive ingredients so scientifically and peculiarly proportioned, and cooked by a special process, that one facilitates the digestion of the other in a manner which renders it acceptable to the weakest infant." The following is the analysis of "I. and I. Food":—

Moisture	8.03
Oil and Fat	3.55
Albuminoids	13.19
Digestible Carbohydrates	72.03
Fibre	1.00
Mineral Matter (Ash)	2.20
	100.0

* This non-nitrogenous matter is not convertible into sugar.

It is not a predigested food; the combination of the various classes of food elements is well devised, and should be suitable for the maintenance of health or restoration to health. Where a cereal food is considered to be more suitable than milk, this preparation will provide it in a form which has been found to be eminently efficient.

Cognet's Hemoneurol.—A. COGNET, Paris; ROBERTS & Co., London.—A combination in granular form of oxyhemoglobine, kolanine, and glycero-phosphate of lime. The combination is one which naturally commends itself as a stimulant to and a regenerator of the blood and the tissues. Cognet's dragées and Cognet's capsules have long been well known and appreciated by those who like luxurious medication. The hemoneurol preparation is a novel and attractive one: it is pleasing to the taste, and will be acceptable to the most fastidious of patients. It is readily soluble in water, wine, tea, or any other beverage, and may be given in doses of three to four teaspoonfuls in the day.

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

Annual Meeting, October 10th, 1900.

Dr. D. S. DAVIES, President, in the Chair.

After a vote of thanks to the retiring President (Mr. W. H. Harsant) had been unanimously passed, Dr. D. S. DAVIES (the President) took the Chair, and gave his introductory address (see page 289), for which a cordial vote of thanks was given him.

The Honorary Secretary (Mr. J. PAUL BUSH) read his Annual Report. He had to record that the members of the Society had lost two of their number through death; viz., Drs. J. Broom and W. F. Carter. The balance in hand was £16 15s. 6d., together with £97 16s. 1d. on the *Journal* account. He thanked Mr. G. Munro Smith for acting as Secretary during his seven months' absence in South Africa. This report was adopted.

The Editorial Secretary (Mr. JAMES TAYLOR), in his report for the year 1899, stated that the profit made by the *Journal* was 18s. 2d.

The Honorary Librarian of the Medical Library (Mr. L. M. GRIFFITHS) gave his annual report, and stated that the Society's Library contained 8,741 volumes and 189 periodicals, and that the Bristol Medical Library, of which the former was a part, contained 19,750 volumes and 226 periodicals.

Mr. C. H. WALKER showed a patient with sub-conjunctival dislocation of the lens.

The following officers were chosen for the ensuing year: President-elect, Dr. Barclay J. Baron; Honorary Secretary, Mr. J. Paul Bush; Honorary Librarian, Mr. L. M. Griffiths; Members of Committee,

Dr. J. Michell Clarke, Mr. J. Dacre, Dr. B. M. H. Rogers, Mr. G. Munro Smith, Dr. H. Waldo, and Mr. J. Taylor; Members of the Library Committee, Mr. L. M. Griffiths, Mr. G. Munro Smith, and Mr. J. Taylor.

November 14th, 1900.

Dr. D. S. Davies, President, in the Chair.

Dr. A. B. Prowse showed a specimen of cardiac embolism. The patient from whom it had been obtained, after showing no grave symptoms for fourteen days, had been seized suddenly with cardiac pain and died very soon after. The clot almost completely blocked the pulmonary artery, and was thought to have probably come from a thrombus in the femoral vein.

Dr. Michell Clarke showed four cases. Case 1 was one of progressive muscular atrophy, peculiar in that the wasting had begun in the shoulder. Case 2, he thought, was one of tumour in the interpeduncular space. The case had been shown to the Society some six or eight months previously. The diagnosis was not then so clear. Intentional tremor in the left arm was a marked symptom. This symptom was occasionally seen in tumours of the brain. It had been found in cases of tumour of the optic thalamus, and of the cerebellum. Case 3 was one of tumour in the motor area of the brain. The illness had begun with a fit of general epileptic type in December, 1896. She had a number of these fits in 1897. Later they changed in type and began with sensations in the left foot and leg. The leg became drawn up, then the body was turned over to the left and the left arm drawn up. The spasms began as twitchings, followed by tonic contractions. Several times when the patient had thought a fit was coming on, the ward sister had apparently checked its onset by speaking sharply to her. This might have led to a diagnosis of hysteria. There was no paralysis at this time, but the knee-jerks and elbow-jerks were exaggerated. In May, 1899, the fits had become infrequent; there was no optic neuritis, and very little headache. She could not easily or quickly let go her grasp of any object. Now she had left hemiplegia and constant spasm, and marked optic neuritis and imperfection of vision. Case 4 was a boy aged 8 years. He had been well until 7 years of age. Since then there had been progressive mental deterioration. His mother had had two brothers who became paralysed at about 10 years of age. The boy could hardly stand, and tended to walk and fall backwards. He had spastic paraplegia of legs and arms, and thick and indistinct speech. There was no optic neuritis, but he had become completely blind in the last three or four months. The case was considered to be one of cerebellar tumour.—Dr. Stack asked if Dr. Clarke had ever before found such a degree of spasticity as this boy presented in cases of cerebellar tumour. He would have thought a diffuse cortical lesion, *e.g.* a sclerosis or simple meningitis, more likely to produce the symptoms presented, and alluded to a case he had seen in which cirrhosis of the liver in a young patient was associated with cerebral sclerosis. Other cases had been recorded of this association which had not, as yet, been explained.—Dr. Michell Clarke replied that the diagnosis in case 4 was quite open to question. It might be a case of degeneration of the brain cortex, but that diagnosis would not easily account for the spasticity and tendency to fall backwards.

Mr. C. A. Morton showed two patients, one with congenital varix of the left lower limb, perineum and penis, and the other with congenital dislocation of the hip. A skiagram of the latter was also shown.

Dr. A. OGILVY showed two patients with congenital anomalies of the eyes. In one the iris was absent; in the other there were synechiæ, a polar cataract, &c., the result of intra-uterine inflammation.

Dr. THEODORE FISHER showed a child with congenital stenosis of the pulmonary artery. There was a loud rumbling and rattling bruit heard over a localised area on the left side of the sternum. No clubbing of the fingers, thrill, or cyanosis was present. Occasional faintness was complained of. He mentioned an example of this affection he had seen in a young man of 25 years of age, who came to him to be examined for insurance. In spite of the malformation, the patient could cycle up hills well. Dr. Fisher also showed the following specimens:—(1) A heart with the aorta and pulmonary artery arising from the right ventricle; (2) A heart with the aorta arising from the right ventricle and the pulmonary artery from the left ventricle.—Dr. J. O. SYMES thought the case might be one of patent ductus arteriosus, as there was so little dilatation of the right side of the heart, and no thrill nor cyanosis.—Dr. MARKHAM SKERRITT agreed with the diagnosis of pulmonary stenosis. There appeared to be very little mingling of arterial and venous blood, and one would reason therefore that the obstruction was not great, and that would explain the slight degree of enlargement of the right heart.—Dr. FISHER, in replying, remarked that the murmur in cases of patent ductus arteriosus was diffused, but in his case was very localised on the left side.

Dr. JAMES SWAIN showed the following specimens from aged patients:—(*a*) and (*b*) multiple calculi removed by supra-pubic cystotomy; (*c*) a columnar epithelioma removed by colectomy. In the last case the affected portion of the colon had been brought outside the abdomen at the first operation by the method of Reclus, and later removed by a second operation. A fistula remained, which he had attempted to close unsuccessfully; but the patient was very comfortable notwithstanding. Dr. Swain remarked that he had found old people bore surgical operations well; but he was convinced that it was of great importance to avoid shock by operating quickly, and to avoid hypostatic pneumonia by getting them up early.—Mr. C. A. MORTON mentioned the case of a woman of 70 from whom he had removed both breasts by two operations, a woman of 73 from whom he had removed a large breast tumour, and a man of 70 in whom he had crushed a vesical calculus. All the cases recovered well.—Mr. EWENS alluded to cases of successful operations on the aged in his own practice.—Dr. STACK mentioned the case of a man of 100 years of age who had borne well a minor surgical operation.

Mr. G. MUNRO SMITH showed a skiagram (and a drawing) of the injury known as "stave of the thumb." He explained that the term was applied to an impacted fracture of the base of the metacarpal bone of the thumb, in which the small fragment was split vertically through the pressure on the trapezium, as well as broken off transversely. Two other examples of this injury were alluded to. The patient had but slight limitation of movement in consequence of the injury. Mr. Smith also showed the larynx of a child who had been suffocated through the impaction of a piece of walnut in the larynx just below the vocal cords.

Dr. E. A. H. GROVES read a paper on "Eclampsia." The notes of two cases which had been successfully treated by saline intra-venous transfusion were read. The first was that of a primipara who gave birth to a child at 5 a.m. She became convulsed when the placenta was expelled. There was little or no hemorrhage. The fits recurred every

hour. Morphia and pilocarpine were first tried, but she became worse. Breathing was stertorous, the pulse 120. No urine was found on catheterization. At 5 p.m. a hundred ounces of saline fluid were transfused, the proceeding taking fifty minutes. At first there was trouble with the blood coagulating in and around the cannula. During the next three hours there were two slight fits; there had been eight in the previous twelve hours. Urine began to be secreted in twenty-four hours. The second case had many convulsions before labour was completed, and became absolutely comatose. A few drachms of urine found in the bladder were solid with albumen. The os was dilated with Champetier's bag and delivery completed. Fifty ounces of saline fluid were injected. The same difficulty with clotting was met with as in the other case. Improvement set in immediately after the transfusion. Dr. Groves then discussed the pathology of eclampsia, and the mode of action of saline injections. He remarked that no constant gross lesions were found in eclampsia. But recent work showed that there were analogous changes in the brain, liver, lungs, and kidneys. Multiple minute thrombotic and hemorrhagic areas were found in these organs. The eclamptic kidney was rather of a degenerated than of an inflammatory type. The liver lesions had been compared to those in acute yellow atrophy. The blood was described as thick and dark and of greatly increased coagulability. The right side of the heart was said always to contain coagula in the fatal cases, in spite of the asphyxia which tended to maintain the fluidity. The literature referring to the use of saline fluid in the treatment of eclampsia was alluded to. The first cases the speaker had found recorded were in 1893 and 1894. In a total number of 47 cases in which this treatment was used, 41 recovered and 6 died. The action probably was that the dilution of the blood hindered further thrombosis and helped to dissolve thrombi already formed. The relief was not due to diuresis. Diuresis was rather a result than a cause of the relief. Relief occurred immediately, before diuresis was established.—Dr. AUST LAWRENCE said that in these cases the first thing to be done was to deliver as quickly as possible. He thought saline injections were very useful, whether given *per* rectum, or by the skin, or through the veins. Injection under the skin required less skill, and was more applicable when assistance was not at hand. A couple of pints could be given subcutaneously. The swelling formed disappeared in a few minutes. Eclampsia could be prevented in many cases if the premonitory symptoms were recognised; viz., swelling of the feet, headache, dimness of vision, &c., and if on their appearance the patients were put to bed and kept on a milk diet with citrate of potash as medicine. He alluded to a case in which veratrum viride had acted very beneficially. The patient had a bounding and hard pulse of 120. Ten minutes after giving ♏ v. of the liquid extract of veratrum the pulse was 60. If the pulse gets too low brandy or ether raises it again. Saline injections, he remarked, were not going to take the place of all other drugs. He had seen a case in which morphia seemed to save life.—Dr. TEMPLE asked why bleeding benefited the cases, seeing that the blood was viscous.—Dr. WALTER SWAYNE agreed that saline fluid was a very valuable remedy. He usually gave it *per* rectum with a long tube. One method of treatment was not suitable for all cases. He hoped for *post partum* hemorrhage in these cases, but it never came. When cyanosis and turgidity of the face existed he regarded venesection as probably the best treatment. The blood became more watery after venesection, which explained Dr. Temple's difficulty. He thought intra-venous injection too drastic in many cases. It was simpler to inject the fluid into the submammary or subcutaneous tissues with a syringe. Rectal injections were the

simplest of all; but the tube had to be held in all the time, while some of the fluid escaped from the anus.—Dr. GROVES, in replying, said there was a notorious difference of opinion about all the remedies which were used except saline fluid, which everyone had found beneficial, and pilocarpine, which everyone decried. The saline fluid was not simply a stimulus, but was a direct remedy attacking the source of the disease.

At the close of the meeting Mr. J. PAUL BUSH showed a series of lantern slides illustrating scenes during the Boer War.

J. LACY FIRTH, *Reporter.*
J. PAUL BUSH, *Hon. Sec.*

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in September:

November 30th, 1900.

L. M. Griffiths (1) ... ... 3 volumes.
Manchester Local Committee of the Library Association (2) ... ... 1 volume.
The Council of the Royal College of Surgeons of England (3) ... ... 1 „
The Council of University College, Bristol (4)... 1 „
Charles Williams (5) ... ... 6 volumes

A framed picture has been presented by Mr. W. H. Harsant
Unframed pictures have been received from the Editors of *The American Gynæcological and Obstetrical Journal* and *The Medical News.*

THIRTY-EIGHTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal.*

Burghard, W. W. Cheyne and F. F. *A Manual of Surgical Treatment.* Part IV. 1900
Carless, W. Rose and A. *Manual of Surgery* ... ... 3rd Ed. 1900
Caton, R. ... ... *The Temples and Ritual of Asklepios* ... ... 2nd Ed. 1900
Cole, L. Riverius, N. Culpeper and A. *The Practice of Physick* 1661
Culpeper and A. Cole, L. Riverius, N. *The Practice of Physick* 1661
Cheyne and F. F. Burghard, W. W. *A Manual of Surgical Treatment.* Part IV. 1900
Duncan, J. ... ... *Angioma, and other Papers.* (Ed. by J. Hodsdon) ... 1900
Eade, Sir P.... ... *The Norfolk and Norwich Hospital, 1770 to 1900* ... 1900
Eshner, S. Solis-Cohen and A. A. *Essentials of Diagnosis*... ... 2nd Ed. 1900
Findlay, W. ... *Robert Burns and the Medical Profession* 1898
Gadd, H. W. ... *A Synopsis of the British Pharmacopœia* ... 5th Ed. 1900

Gould, G. M. ... *The Student's Medical Dictionary* ... ...11th Ed. 1900
Guttmann, H. ... *Arzneiverordnungen in der Kinderpraxis.* Dritte Aufl. 1901
Haddon, A. C. ... *The Study of Man* 1898
Harrison, R. ... *Vasectomy and Urethro-Stenosis* 1900
Kayser, R. ... ... *Kehlkopf-, Nasen- und Ohrenkrankheiten* 1901
Keetley, C. B. ... *Orthopædic Surgery* 1900
Keith, S. ... ... *Gynæcological Operations* 1900
Latimer, J. ... ... *The Annals of Bristol in the Seventeenth, Eighteenth, and Nineteenth Centuries.* 3 vols. 1887–1900
McCrae, W. Osler and T. *Cancer of the Stomach* 1900
Murrell, W. ... *What to do in Cases of Poisoning* ... ... 9th Ed. 1900
Osler and T. McCrae, W. *Cancer of the Stomach* 1900
Pharmacopœia in usum Nosocomii Regalis Bristoliensis ... ... (1) 1858
Prichard, J. C. ... *Six Ethnographical Maps* ... ... 2nd Ed. 1861
Purdy, C. W. ... *Practical Uranalysis and Urinary Diagnosis* 5th Ed. 1900
Quain, [J.] ... ... *Elements of Anatomy.* (Ed. by E. A. Schäfer and G. D. Thane) Vol. I., part 1. New Ed. 1898
Riolanus, J. ... *Encheiridium Anatomicum et Pathologicum* 1649
Riverius, N. Culpeper and A. Cole, L. *The Practice of Physick* 1661
Roberts, R. L. ... *Nursing and Hygiene* ... ... 3rd Ed. 1900
Rose and A. Carless, W. *Manual of Surgery* ... ... 3rd Ed. 1900
Royal College of Surgeons of England, Souvenir of the Centenary of the, 1800–1900 ... ... (3) 1900
Seitz, C. ... ... *Kurzgefasstes Lehrbuch der Kinderheilkunde.* Zweite Aufl. 1901
Solis-Cohen and A. A. Eshner, S. *Essentials of Diagnosis* ... ... 2nd Ed. 1900
Stewart, G. N. ... *Manual of Physiology* ... ... 4th Ed. 1900
Sutton, C. W. ... *Special Collections of Books in Lancashire and Cheshire* (2) 1900
Thornton, R. J. ... *The Pharmacopœia of the Royal College of Physicians of London.* (Tr. from Latin Ed., 1817) (1) 2nd Ed. 1817
Todd, R. B. ... ... *Clinical Lectures: Acute Diseases* ... ... (5) 1860
Turner, W. ... ... *Lectures on the Comparative Anatomy of the Placenta.* 1st Ser. (1) 1876
Walsh, D. ... ... *Golden Rules of Skin Practice* ... ... [1900]
Williams, C. ... *The Barber-Surgeons of Norwich* ... ... (5) 2nd Ed. 1897
,, ... *The Masters, Wardens, and Assistants of the Gild of Barber-Surgeons, 1439–1723.* 2nd Ser. ... (5) 1900
,, ... *The Ordinances of the Gild of Barber-Surgeons of Norwich* ... ... (5) 1900

TRANSACTIONS, REPORTS, JOURNALS, &c.,

American Journal of Obstetrics, The ... ... Vol. XLI. 1900
American Ophthalmological Society, Transactions of the Vol. IX., pt. 1 1900
American Surgical Association, Transactions of the ... ... Vol. XVIII. 1900
Archives of Otology ... ... Vols. VIII., IX., 1879–80, XI. 1882
Australasian Medical Directory, The 1900
Bookseller, The 1899
British Library Year Book 1900
Buffalo Medical Journal ... ...Vol. XXXIX. 1900
Cincinnati Lancet-Clinic, The ... ... Vol. LXXXII. 1900
Clinical Journal, The ... ... Vol. XVI. 1900
Edinburgh Medical Journal, The ... ... Vol. VII. 1900
Edinburgh Obstetrical Society, The Transactions of the... Vol. XXV. 1900

Finska Läkaresällskapets sjuttonde allmänna möte i Helsingfors 21–23 September, 1899, Förhandlingar vid 1900
Giornale internazionale delle Scienze mediche 1899
Grant College Medical Society, Transactions of the, for 1899 1900
Hospitals—
Edinburgh Hospital Reports ... ...Vols. V., VI. 1898–1900
Guy's Hospital Reports ... ... Vol. LIV. 1900
Journal of Tropical Medicine, The ... ... Vol. II. 1900
Library Association Record, The ... ... Vol. I. 1899
Library World, The ... ... Vol. II. 1900
Medical Society of London, Transactions of the ... ... Vol. XXIII. 1900
Medico-Chirurgical Transactions ... ... Vol. LXXXIII. 1900
New York, Transactions of the Medical Society of the State of 190
Ohio State Medical Society, Transactions of the 190
Philadelphia Medical Journal, The ... ... Vol. V. 1900
Polyclinic, The ... ... Vols. I., II. 1899–1900
University College, Bristol—Calendar ... ... (4) 1900
Western Ophthalmologic and Oto-Laryngologic Association, Transactions of the Ophthalmologic Division of 1900

Local Medical Notes.

BRISTOL.

University College.—C. G. Russ Wood, M.R.C.S., L.R.C.P., a former student of the School, has been elected Surgeon to the Eye, Ear, and Throat Hospital for Shropshire and Wales. There were seventeen competitors for the post.—A. G. G. Plumley, M.B. Lond., M.R.C.S., L.R.C.P., L.D.S., has been appointed Dental Surgeon to the Clayton Hospital and Wakefield General Dispensary.—Messrs. Dundas Edwards and J. Norton, of the Bristol Medical School, have obtained the M.R.C.S. Eng. and L.R.C.P. Lond. Diplomas.—A Rifle Club has been started at the College, and is to be connected with the National Rifle Association. There is a great difficulty in finding a range. In the meantime it is hoped that a Morris Tube range will be acquired in a situation near the College.

Royal Infirmary.—Alex. Ogilvy, M.D., F.R.C.S.I., has been appointed Ophthalmic Surgeon to the Royal Infirmary, in succession to F. Richardson Cross, M.B., F.R.C.S.—C. F. Walters, M.R.C.S., has been appointed Anæsthetist and Junior House Surgeon, and F. A. Coates, M.R.C.S., Junior House Surgeon, at the same Institution.

General Hospital.—H. G. Kyle, M.A., M.B., B.Ch. Oxon., has been appointed House Surgeon to the Hospital in succession to F. N. Cookson, M.D., F.R.C.S.

Memorial to the late Mr. Augustin Prichard.—On November 1st, at Redland Green Chapel, a window was dedicated to the memory of the late Mr. Augustin Prichard. The window contains the figures of St. Luke and St. Barnabas, and has a suitable inscription.

Scarlet Fever.—We are indebted to Dr. D. S. Davies for the following information with regard to the recent outbreaks of scarlet

fever in Clifton:—At a meeting of the Health Committee on November 6th, the Medical Officer of Health reported an outbreak of scarlet fever in the registration sub-district of Clifton, which he ascribed to milk-infection. Sixty-three cases arose within five days in several parts of the sub-district which had previously been free, and all the cases were upon one or another of three milk rounds, all of which received part supply from one farm. Amongst 85 other milk rounds, supplying some 7000 houses, only 9 cases occurred during the same period. On enquiry at the suspected farm a boy was found to have suffered from indeterminate feverish and throat symptoms, and two of his brothers sickened of scarlet fever during the six days under notice: the first boy, considered as an ambulant case, had free access to the milk-cans during dairy operations. Several special instances pointing to the influence of uncooked milk in determining infection were quoted, and the Medical Officer pointed out that in residential districts any sudden and scattered outbreak of scarlet fever was almost certain to be due to milk carriage, and commented on the distinctions between the incidence in milk outbreaks and the slow gradual spread through the ordinary social channels. A full report of the outbreak will be published.

Medical School Annual Dinner.—On Thursday evening, Nov. 22nd, at the Royal Hotel, College Green, the past and present Bristol Medical Students held their Annual Dinner. It was a very successful function, and the medical profession of Bristol and Clifton were well represented. Dr. Shingleton Smith occupied the Chair, and the guest of the evening was Sir William Broadbent, Bart. After other toasts had been duly honoured, Sir William Broadbent proposed that of The Bristol Medical School. He felt that the chief right he had to propose this toast lay in the fact that he felt so much sympathy with it and that he wished well of the School. He himself had begun his medical career in the provinces, having attended classes at Owens College, Manchester. He had heard of the Bristol Medical School throughout his whole career. They were happy in having the School as part of University College, and he hoped it would not be long before it became a great Western University. He considered a Medical School a good nucleus for a University, and he hoped one day to see Bristol able to confer degrees in medicine. There was a very large field for clinical work open to the student at the Royal Infirmary, the General Hospital, the Eye, Children's, and Fever Hospitals, and the Asylum at Fishponds. It had given him great pleasure that afternoon to go over the local institutions and University College in which the preliminary sciences were taught. He did not recommend too much time to be spent over preliminary work, though he would not underrate the importance of anatomy and physiology. It was in hospital wards that the eye, ear, and hand were best trained, and here they learnt to deal with disease, not as an entity, but with the patient. Therefore everything must be subordinate to clinical work, and here Bristol had the advantage over some of the London Schools in the amount of material available *per* man; and thus he thought that Bristol might even attract students from London. Physicians and surgeons learnt as much in teaching as did the students. Expounding a case and going over notes helped exact observation, and he said this from an extended experience. He remembered hearing some students criticising a physician. One remarked, "He is never wrong;" the other said, "But he is never right either." Error, he thought, was better than confusion, and much was to be learnt from mistakes. He wished success to the faculty, the students, and the Medical School.

Dr. Markham Skerritt, the Dean of the Medical School, responded

to the toast in suitable terms, and thanked Sir William Broadbent for coming there and speaking in such a kind way of University College, Bristol.

The health of the Chairman, Dr. Shingleton Smith, was proposed by Mr. R. W. Doyne, Oxford.

Dr. Smith's reply brought the meeting to a conclusion.

ROYAL MEDICAL BENEVOLENT COLLEGE.—Mr. J. Paul Bush (the honorary secretary for Bristol) wishes to bring before the notice of the medical profession in this district the urgent need of new subscribers to the Royal Medical Benevolent College, the funds of which have suffered considerably owing to the numerous appeals in connection with the war in South Africa to which such splendid response has been given. That the good work is urgently needed is proved by the long list of applicants for "Pensionships" and "Foundation Scholarships." How well the Medical College at Epsom has done its duty to the latter class is shown by the success in after life of its "old boys." It has been with the utmost difficulty that the number of each class has been kept up to 50; it is increasingly clear that the Council must reduce the number of both Pensioners and Foundation Scholars if the income of the College is not maintained. Mr. Bush trusts that the profession of Bristol and the neighbourhood will do all that can be done to prevent any diminution of the funds of so useful a medical institution, and he hopes that the small number of only 24 subscribers for such a large and rich district will be considerably increased during the year.

BATH.

VACCINATION.—At the meeting of the Bath Board of Guardians, held on October 3rd, it was reported that during the first eight months of this year there had been 1,128 births, and of these children 658 had been successfully vaccinated, 99 cases were postponed, 67 had exemption certificates, and 154 had died.

EXETER.

WEST OF ENGLAND EYE INFIRMARY.—The annual meeting of this institution was held on October 26th, under the presidency of the Rev. E. Chatterton Orpen. The medical report stated that 2,845 patients had been under treatment during the past year. The financial statement showed that the total receipts amounted to £1,392, and that there was a favourable balance of £86. The chairman stated that the first two sections of the new building were now nearly completed. He added that the cost of the new premises would be about £16,000, towards which £8,000 had been at present contributed.

GLOUCESTER.

HEALTH OF GLOUCESTERSHIRE.—The report of the Medical Officer of Health and Sanitary Committee of the Gloucestershire County Council for 1899 shows that 8,802 births were registered (2,363 in urban and 6,439 in rural districts), giving a birth rate of 23.6 per 1,000 (against 29.3 for England and Wales); 5,458 deaths occurred (1,568 urban and 3,890 rural), equal to 14.97 per 1,000, as against 18.3 per 1,000 for England and Wales; 1,081 cases of scarlet fever were notified, with 18 deaths; 361 cases of diphtheria, with 61 deaths; 163 cases of typhoid fever, with 34 deaths; and 21 cases of puerperal fever, with 12 deaths. Only one case of small-pox was notified, and the report adds that "the Vaccination Act is working successfully, the domiciliary visits and the use of sterilised calf-lymph seem to have disarmed the opposition of objectors and the neglect of the indifferent."

PLYMOUTH.

ICE-CREAM.—The borough analyst of Plymouth having reported to the Sanitary Committee of that town in reference to the ice-cream sold in the streets, the Sanitary Committee has decided that premises where ice-cream is manufactured shall be registered and supervised by the sanitary authority.

RHONDDA VALLEY.

SCARLET FEVER.—Owing to the prevalence of scarlet fever in the Rhondda Valley, the District Council has called upon the school authorities to close seven of the public elementary schools for a period of six weeks. The outbreak began about a fortnight after the schools re-assembled; the weekly number of cases since then has averaged nearly sixty.

SWANSEA.

GENERAL HOSPITAL.—Dr. F. G. Thomas and Mr. J. Thomas have been appointed Ophthalmic Surgeon and Consulting Surgeon respectively.

WEYMOUTH.

ROYAL HOSPITAL.—Dr. J. Moorhead has been appointed Consulting Physician.

Obituary.

SAMUEL HENRY SWAYNE.

We have to record, with deep regret, the death of Mr. SAMUEL HENRY SWAYNE in his eightieth year.

His was a well-known figure at the meetings of the Bath and Bristol Branch of the British Medical Association. There, as also at the Bristol Medico-Chirurgical Society, he was always listened to with interest, from the fact that he spoke only of matters with which he was thoroughly conversant. A member of an old Gloucestershire family, he was born in Bristol, and spent his whole professional life here. He owed his early medical education partly to the Bristol Medical School, and partly to St Bartholomew's in London. Much of his student experience was gained in the wards of the Bristol Royal Infirmary.

Never in robust health, he carried on a useful practice, and was much valued by his patients. His honourable dealing in all professional matters raised for him a deep respect amongst his medical brethren; and in any discussion on scientific matters in which he took part, it was felt that he brought to bear on the subject in hand the result of extensive scientific reading and research. His pure, good life teaches many lessons. No one ever knew him without feeling a real regard for him. In quietness and in confidence was his strength; and it is not a usual record that he was in practice within a few weeks of his death, and that he found opportunities of interest, not only in the purely medical societies of the district, over one of which, the Medico-Chirurgical, he had some years ago presided, but also in the Bristol Naturalist Society, the Bristol and Gloucester Archæological Society, the Bristol Microscopical Society, and the Clifton Antiquarian Club.

He was a tower of strength in friendship, and a deeply religious man. *Requiescat in pace.*

JOHN TILSLEY.

Mr. JOHN TILSLEY died at the residence of his father, George Street, Bath, on October 28th, from dysentery, in his thirty-second

year. The deceased received his medical education at University College, Bristol, and took several prizes and scholarships. He qualified L.R.C.P. Lond. and M.R.C.S. Eng. in 1894, and after holding resident appointments at the Bristol General Hospital, proceeded as a medical missionary to Kiu-Kiang, China. On the outbreak of the recent disturbances there he was warned to leave by the British Consul, and consequently with his wife and child he started for England. After recovering from an attack of fever contracted at Shanghai, they proceeded on their journey. At Colombo, however, Mr. Tilsley unfortunately fell a victim to dysentery; but rallying, he continued the voyage, only to die the day after arriving at Southampton.

SCRAPS

PICKED UP BY L. M. G.

Clinical Records (33).—A pale and dishevelled Frenchman was sinking into his deck-chair on a Channel steamer, when a passenger asked cheerily: "Ah, monsieur, have you breakfasted?" "No, monsieur," answered the pallid Frenchman, "I haf not breakfasted—on ze contrairy!"

Medical Philology (XXXVI.).—Appended to the entry in the *Promptorium* of "Dragge. *Dragetum*," Mr. Way gives the note: "The word is taken from the French *dragée*, a kind of digestive and stomachic comfits anciently much esteemed," and he quotes from Chaucer's "Doctour of Phisyk" (Prologue, 436):

> "Ful redy hadde he his apothecaries,
> To send him dragges, and his lettuaries."

But the reading "dragges" appears in only one of the old MSS. The others have "drogges" or "drugges," and the first of these is the word now usually accepted. It is most likely that Chaucer meant to refer to remedies of a more general character than would be denoted by the distinctly limited term. Cotgrave says dragée is "a kind of disgestiue powder, vsually prescribed vnto weake stomackes after meat; and hence, any ionkets, comfets, or sweet meats, serued in at the last course, (or otherwise) for stomacke-closers."

Medical Education.—At a recent Congress of the American Physicians and Surgeons, Dr. H. P. Bowditch, speaking of "The Medical School of the Future," said: "One of the most hopeful signs of the times in the field of medical education is the growing tendency of the better schools to ally themselves to universities and of universities to establish medical departments. . . . In fact, it is difficult to see how a private medical school of the joint stock company type can ever, in the future, rise to the first rank, for such a school is not much more likely to attract endowments than a cotton mill and without endowments the enormous expenses of a modern first-class medical school cannot possibly be met," considering that "'the immense deepening and widening of human knowledge in the nineteenth century and the increasing sense of the sanctity of the individual's gifts and will power.'" He pleads for the early specialisation of the student's work.

The Boston Medical and Surgical Journal, commenting on Dr. Bowditch's address, says: "We are glad to note a perfectly definite desire to do full justice to the methods of the past, while recognizing the fact that some of those methods have outgrown their usefulness. This, coupled with the conviction that medical knowledge has passed beyond the limits of a rigidly prescribed course, gives to the address a judicial quality which is at times lacking in the first enthusiasm of reform. We have of late frequently found occasion to express ourselves as advocates of change in the form of instruction. This is inevitable

and wholly desirable, but this should never lead us into the error of supposing that the acquisition of knowledge is entirely dependent upon the manner of its presentation. The teacher is, after all, the essential element in the success of any system. We look, therefore, to a readjustment of the form of instruction which will lead us to the development of the teacher as well as of the student. We have no doubt that the didactic lecture will be dignified rather than degraded by the attacks made against it, and the observation and independence of the student cultivated at the same time, through individual work in a general atmosphere of greater freedom in the choice of his studies. These seem to be some of the lessons which Dr. Bowditch's address teaches."

Dr. Lewellys F. Barker, in an address "On the Present Status of Therapy and its Future," in the *Bulletin of the Johns Hopkins Hospital*, thinks that "perhaps the most significant movement at present observable in medicine is the beginning of the application of the newer ideas of physics and chemistry to the solution of biological questions." He says that the principles underlying the new methods of approaching problems are "so fundamentally important and have already worked such marvelous transformations in the mode of thought and activity of chemists that we are justified in expressing great hope for the future in their use by medical investigators," to some of the already-attained results of which he alludes. He is so confident "that the promise for the future in pathogenesis and in pharmacodynamics is much brightened by the advent of physical chemistry," that were a medical student to ask him the question, "How can I best fit myself to make real advances in knowledge in medicine and therapy during the next twenty-five years?" he would say, "In addition to a thorough medical course, arm yourself with sufficient mathematics and gain a thorough theoretical and practical training in the methods of physics and chemistry and especially in the principles and methods of what is called 'physical chemistry.' After this turn your attention to the solution of medical problems."

Dr. W. W. Keen delivered the presidential address at the annual meeting of the American Medical Association. It is printed in full in *The Medical News* of June 9th, 1900. After entering into details of the necessities of increased laboratory work in medicine, Dr. Keen said: "But, the function of the medical school should not be limited merely to the imparting of existing knowledge. No school is worthy of the name that does not provide for greater or less research work, by which some substantial additions to our knowledge may be made, and the facilities and the results of the healing art made more efficient for the welfare of mankind. . . . Our hospitals do a magnificent work in charity, helping the sick and the forlorn, the weak and the suffering, in a way which appeals to the charitable instincts of our fellow-countrymen, and to this appeal they have responded most generously. *But I venture to say that the medical school which trained a Lister, a Pasteur, a Koch, has done more for humanity than all the hospitals of this country combined.* The modest laboratory at Würzburg consisted chiefly of a Rhumkorff coil, and a Crookes' tube — and Röntgen. Other Röntgens and Listers we have among us if we but knew it. These are the men who are the world's real illustrious heroes."

The view of one who is not a medical man, but who has had large experience in teaching, deserves attention. Dr. Andrew V. V. Raymond, the President of Union College, speaking on "Education and the Profession of Medicine" before the Medical Society of the State of New York, said: "I will not say that there is no disciplinary value or no fertilizing influence in purely professional studies, but this I do say, that in these respects they do not compare with other studies which find no place in your curriculum. It will be admitted by all that what is needed for the successful prosecution of any professional course is intellectual vigor, mental grasp, ability to comprehend statements, to follow a line of reasoning, to think clearly and closely. I will venture the assertion that lack of this ability is the greatest difficulty encountered by the teachers in your medical schools, and it is not due to the natural dulness of the students, but to the absence of such preliminary training as makes a man master of his own intellectual forces, giving him the power to concentrate thought and hold his mind to a subject till it is understood."

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